SPECIAL CANINE NUMBER

JANUARY 1934 VOL. 90, NO. 1

LIBRARY
RECEIVED
MAY 23 1934
U.S. Department of Agriculture

THE VETERINARY JOURNAL

A MONTHLY REVIEW OF VETERINARY SCIENCE

Est. 1826

EDITOR:

PROF. SIR FREDERICK HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E.

DR. MED. VET. *h.c.* (ZURICH),
HONORARY VETERINARY SURGEON TO HIS MAJESTY THE KING,
OFFICIER DU MÉRITE AGRICOLE (FRANCE),
CAVALIERE DEI SS. MAURIZIO E LAZZARO (ITALY),
HONORARY MEMBER OF THE AMERICAN VETERINARY ASSOCIATION,
PRINCIPAL AND DEAN OF THE ROYAL VETERINARY COLLEGE, LONDON

SUB-EDITOR:

GLADSTONE MAYALL, M.R.C.V.S.

LONDON:—BAILLIÈRE, TINDALL & COX
7 & 8, HENRIETTA ST., COVENT GARDEN, W.C.2.

AGENTS:—UNITED STATES—ALEXANDER EGER, CHICAGO; STECHERT & CO., NEW YORK. AUSTRALIA—GORDON & GOTCH, MELBOURNE, SYDNEY, WELLINGTON. CANADA—THE MACMILLAN CO., TORONTO.

PRICE TWO SHILLINGS NET, OR 21/- (U.S.A. $5.00) PER ANN. (POST FREE)

Entered as Second-Class Matter in the U.S. Post Office

XUM

'C-A' Worm Capsules

FOR POULTRY

PARKE, DAVIS & Co's 'C-A' Worm Capsules are designed for the simultaneous expulsion of round worms and tape-worms from poultry. They are supplied in two sizes:—

No. 195, 12 minims, for pullets up to 3 months
No. 196, 24 minims, for adult birds.

Supplied in boxes of 12 *and* 50

Haliverol

THE oil extracted by a special process from the liver of the halibut is a potent source of the fat-soluble vitamin A. This is combined with irradiated ergosterol (viosterol) to produce Haliverol (P., D. & Co.) which is 60 times as potent as cod-liver oil in vitamin A, and 250 times as potent in vitamin D.

1 minim of Haliverol is equivalent in vitamin A to 1 teaspoonful of cod-liver oil

Haliverol is ideally suited for poultry and small animals on account of the small volume of the dose.

Supplied in vials of 5 *c.c. and* 50 *c.c., with droppers; also in capsules of* 3 *minims* (10 *drops*) *in boxes of* 25 *and* 100

PARKE, DAVIS & COMPANY

50, Beak St., London, W.1

LABORATORIES: HOUNSLOW, MIDDLESEX

Inc. U.S.A ; Liability Ltd.

Black Leg Aggressin

(Germ Free)

"CUTTER"

An undiluted natural tissue extract

Germ free and absolutely safe to use

The most rational and effective method of dealing with Blackleg

The immunity conferred by it is so persistent that a second vaccination is unnecessary, except as an added precaution with valuable animals

Willows, Francis, Butler & Thompson, Ltd.

are SOLE AGENTS for the

CUTTER BACTERIAL PRODUCTS

and

can offer advantageous prices for quantity

We supply these Products only to the Veterinary Profession

SHACKLEWELL LANE, LONDON, E.8

The Veterinary Journal.

JANUARY, 1934.

CONTENTS.

EDITORIAL— PAGE

The Progress of the Scheme for Whole-time State Veterinary Service ... 1
A Service of Special Numbers. ... 2

GENERAL ARTICLES—

The Royal Veterinary College—The Canine Hospital Department and the Beaumont Animals' Hospital.
By Sir Frederick Hobday, C.M.G., F.R.C.V.S., F.R.S.E. ... 3
Canine Medicine.
By G. Mayall, M.R.C.V.S. ... 7
Rabies in South Africa.
By Sir Arnold Theiler, K.C.M.G. ... 9
A Peculiar Case of Œsophageal Obstruction.
By J. McCunn, L. Balls, and C. Haselden ... 13
A Case of Mummified Fœtus in the Bitch.
By J. G. Wright, F.R.C.V.S. ... 14
Fracture of the Femur in the Dog.
By A. C. Shuttleworth, B.V.Sc., M.R.C.V.S. ... 16
Closure of the Uterine Stump.
By George Dykes, M.R.C.V.S. ... 19
The Misuse of Drugs.
By David Eric Wilkinson, M.R.C.V.S. ... 20
Mad Dog.
By I. Aitken ... 23
Rubber Foreign Bodies in Dogs.
By Professor G. H. Wooldridge, F.R.C.V.S., M.R.I.A., and J. W. H. Holmes, M.R.C.V.S., D.V.S.M. ... 28
Nephritis in the Dog.
By Frank Chambers, F.R.C.V.S. ... 30
Exploration of the Mouth in Animals.
By C. W. Elam, M.R.C.V.S., D.V.H. ... 33
Lympho-Sarcoma of the Rectum and its Sequelæ.
By J. McCunn, A. B. Orr, and L. Lester ... 34
Gastro-Intestinal Disorders—The Importance of Diet in Treatment.
By W. R. McKinna, M.R.C.V.S., D.V.S.M. ... 36

ABSTRACTS OF CURRENT LITERATURE ... 38

PLATES—

The Royal Veterinary College—The Canine Hospital Department and the Beaumont Animals' Hospital.
(*Article by* Sir Frederick Hobday, C.M.G., F.R.C.V.S., F.R.S.E.)
A Peculiar Case of Œsophageal Obstruction.
(*Article by* J. McCunn, L. Balls, and C. Haselden)
A Case of Mummified Fœtus in the Bitch).
(*Article by* J. G. Wright, F.R.C.V.S.)
Rubber Foreign Bodies in Dogs.
(*Article by* Professor G. H. Wooldridge, F.R.C.V.S., M.R.I.A., and J. W. H. Holmes, M.R.C.V.S., D.V.S.M.)
A New Mouth Gag for Exploration Work.
(*Article by* C. W. Elam, M.R.C.V.S., D.V.H.)

SUPPLEMENT—

The History and Evolution of the Racing Greyhound.
By Major-General Lord Loch, C.B., C.M.G., D.S.O., M.V.O.
(With *Plate* showing points of a champion dog)

THE
VETERINARY JOURNAL

Editor:
PROF. SIR FREDERICK HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E.,
DR. MED. VET. *h. c.* (ZURICH),
HONORARY VETERINARY SURGEON TO HIS MAJESTY THE KING,
OFFICIER DU MÉRITE AGRICOLE (FRANCE),
CAVALIERE DEI SS. MAURIZIO E LAZZARO (ITALY),
HONORARY MEMBER OF THE AMERICAN VETERINARY ASSOCIATION,
PRINCIPAL AND DEAN OF THE ROYAL VETERINARY COLLEGE, LONDON.

Sub-Editor:
GLADSTONE MAYALL, M.R.C.V.S.

JANUARY, 1934.

Editorial

THE PROGRESS OF THE SCHEME FOR WHOLE-TIME STATE VETERINARY SERVICE.

The whole-time veterinary service has come to stay—of that there is now no question of doubt—for the counties of England are energetically moving in every direction for county veterinary inspection; and so long as the scale of salary is equivalent to the standard set up by the Council of the National Veterinary Association, our graduates will be well advised to apply. It naturally takes time to reach the same salary as it now drawn by men who have occupied senior positions satisfactorily for some time; but the salaries are quite good, even for the junior at the commencement, and they are the recognised stepping stones to the higher posts. Just as the panel system came opportunely for the members of the human branch of medicine, so has the Veterinary State Medicine scheme arrived opportunely for the veterinary surgeon; and for some years to come the young graduate will be wise to prepare by an added Diploma in Preventive Medicine for prospective duties of this kind, whether of a whole-time nature or as an addition to his duties as a general practitioner.

A SERVICE OF SPECIAL NUMBERS.

THE appreciation which has been evinced by the readers of THE VETERINARY JOURNAL for the special numbers which have been produced from time to time during the past few years has brought the subject into such prominence that it

has been decided to accentuate this as a special feature during this coming year ; the subjects, which will be announced later on, include some recent advances in methods of dealing with cattle and sheep diseases. We would welcome suggestions from the profession as to which species of animal patient, and which set of ailments, would be the most appreciated for discussion. For example, this present number has its pages filled with subjects of canine interest ; and it is marvellous what a large part the dogs play in our daily lives, not only from the sentimental point of view, but from the practical aspect of the expense and inconvenience which is involved in the eradication of notifiable and other epidemics. A second feature, which will be continued at intervals, is the added loose-leaf supplement, which will deal with some animal or breed of animal which is at the moment of popular interest.

This month we have the racing greyhound, so ably introduced to our readers direct from the pen of Lord Loch, one of the ablest exponents of greyhound track racing ; and we propose to select, in a later issue, some topical matter of interest in connection with cattle, pigs and the other farm animals ; either the best type of healthy animal for certain purposes (such as the typical bacon pig, or the type of sheep for certain districts, etc.), all matters of conversational importance between the veterinary practitioner and his client. All that is needed now to complete the success of the Journal is a persistent recruiting effort on the part of the present subscribers ; and this has already started. The article by Sir Arnold Theiler is of exceptional interest in that it illustrates that there is as great a necessity for skilled veterinary observation and control of wild animals turned loose together in the wide open spaces set aside for their preservation as for those under domesticity ; and the importance of not forgetting to pay attention to small animals such as the genet cat—a bite from which, if rabid, would be as fatal as from the domesticated dog. The deductions by which Sir Arnold implicates this small and comparatively insignificant little creature could obviously only be made by the trained mind of a man of experience, and one traces in such things as this the secret of his greatness—for no man has done more for South Africa than Arnold Theiler—the characteristics being a most wonderful modesty, patience, and persistent perseverance in following to a finish the goal he set out to win. The Empire is fortunate to possess such men, and for the sake of our profession, let us hope that many of the younger generation will follow in his footsteps. Our success will then be reassured.

XUM

General Articles

THE ROYAL VETERINARY COLLEGE.

The Canine Hospital Department and the Beaumont Animals' Hospital.

By SIR FREDERICK HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E.
Principal and Dean of the Royal Veterinary College.

THE Royal Veterinary College is at last "coming into its own," and the first sections of the new buildings, which are already occupied, will be the precursors of a veterinary school which is intended to be the most up to date in equipment, as well as in the laboratories and other requirements, which are necessary for the efficient teaching of modern veterinary science.

The College was, as is well known, founded on its present site in 1791, and most of the buildings which were set up in that year are still there. Naturally, they have become not only very dilapidated, and even dangerous to those who have to work in them, but antiquated and very much out of date. Although the premier college of the British Empire, and situated in its chief city, it has on more than one occasion been truthfully described as a "National Disgrace"; and it was to endeavour to remedy this that a Government Committee of Inquiry was appointed to go thoroughly into the matter. The result of their deliberations was that the minimum sum of £300,000 (this has since been reduced to £250,000) was considered to be necessary for the rebuilding of the laboratories and hospital accommodation, etc.; and a further sum of £250,000 for the endowment of the various teaching Chairs. Of this sum, the amount of £150,000 was promised by the Government authorities, provided the College authorities and their friends would raise £100,000. The latter has now been accomplished, with the result that the removal of the old derelict and dangerous class-rooms and loose boxes has commenced, and new buildings, including a model dairy and cowshed, with isolation boxes for research, have already begun to show themselves, much to the benefit both of student and teacher.

The list of donors which made the collection of such a large sum as £100,000 possible in these hard times, is a large and very cosmopolitan one, and all who have given have done so with a good heart and with enthusiasm for the cause of the sick and helpless animal; and also with good will for the continued satisfactory education of the future veterinary surgeon. Suffice it to say for the moment, that the names on the list (which is a very lengthy one, and is headed by His Most Gracious Majesty the King), whether the owners of pet animals or of those bred from a commercial aspect, are welded together in a common bond of union, *i.e.*, the desire to alleviate the sufferings of their charges when sick and helpless.

In the present article it is intended to describe the new Canine Hospital Section as far as it has gone, and before doing so it must be first explained that the building described as the Beaumont Animals' Hospital owes its origin to a legal dispute which arose over the method of a bequest of some £100,000 by the late Mrs. Sarah Grove-Grady. The relatives, a Yorkshire family, by name Beaumont, disputed the will, but eventually came to a compromise whereby the sum of £25,000 was to be set aside to build a hospital for animals. This was mutually arranged in the High Courts of Justice, and this amount was legally allotted to the Royal Veterinary College. Of this, the sum of £18,500 has been spent in building, some £1,500 in equipment, and the remaining £5,000 is invested in order to assist in the necessary maintenance, etc. As will be seen by reference to the accompanying photographs, this building consists of three stories from the ground; but there are in reality four, as the roof space is most excellently lighted and arranged to be utilised for exercising grounds, and the basement is so arranged that it is light and airy, and can be used for most excellent kennels. The natural slope of the ground on which the building is placed was well utilised in the construction of this section, and the room in question contains a set of very hygienic kennels and cat pens, the latter of which can also be occupied by dogs of the smaller breeds.

The basement floor also contains a lethaling room, fitted with plugs for the application of the electro-lethaling method, an isolation room (temporarily used for the Röntgen-ray apparatus), a mortuary, rooms for the kennelmen, lavatories, and other purposes.

The first floor (which is on a level with the street) is given up to the Poor Out-patient Department, and consists of an entrance hall controlled by a janitor, who books down the names and addresses of each owner as they come in. They are then ushered into a large waiting room capable of holding forty or fifty people; from here they pass on in turn with their respective animals into a consulting room, where the professor in charge and his two assistants deal with them in the presence of a class of senior students, who carry out any instructions as regards dressings or the dispensing of prescriptions, or whatever may be considered necessary. A well-equipped and well-arranged pharmacy is close at hand. Minor surgery, such as the dressing of wounds, ear dressing for canker and such things, the scaling of teeth, etc., is done in an adjacent room, which is large and spacious, and well equipped with tables and wall-cases suitably arranged and fitted for the purpose. The actual surgical theatre is on the next floor, access for the patients being either by a short flight of stairs or a lift.

Upon arrival here the patient is taken into a small room fitted with facilities for a final cleansing of the feet, etc., before going along into the operation theatre, this latter being so arranged that it is adjacent to the sterilising and instrument store-rooms, the convenience of this being obvious. The room itself is very effectively lighted both by day and by night, a scialytic light being hung over the main operating table. This latter is a combined design of the

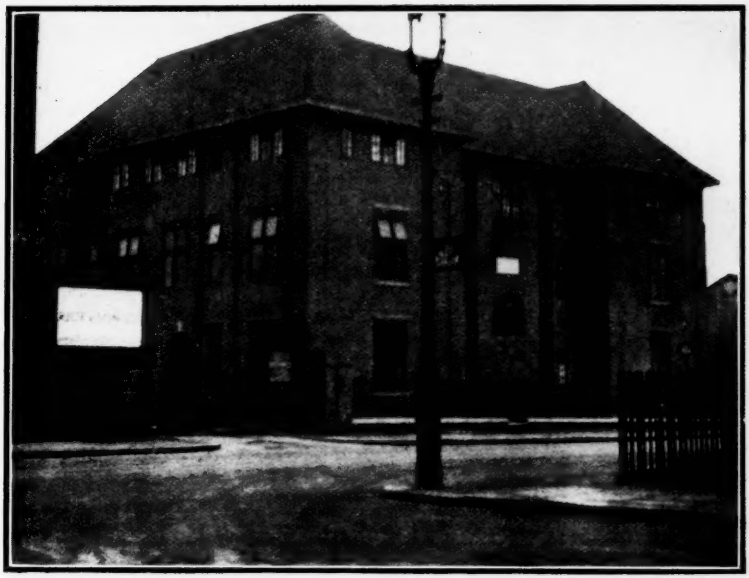


FIG. 1.—The Beaumont Animals' Hospital Section of the Royal Veterinary College.

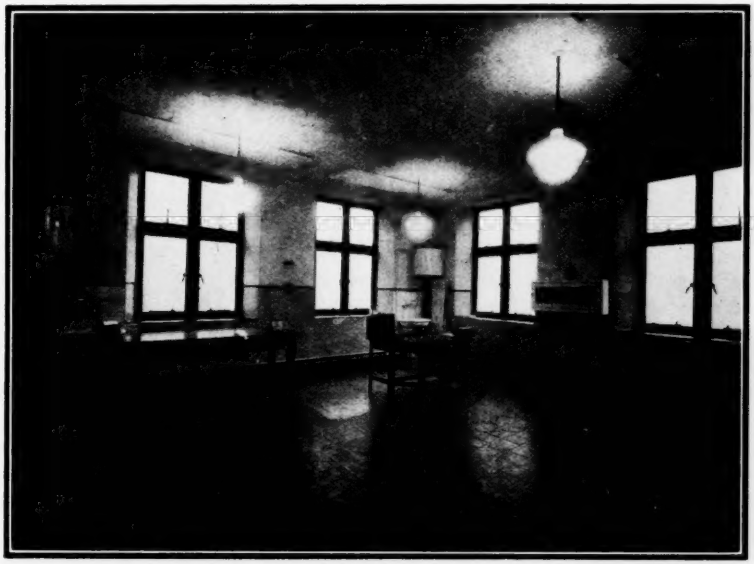


FIG. 2.—The Consulting Room of the Beaumont Animals' Hospital (Royal Veterinary College).

(*Article by* Sir Frederick Hobday, C.M.G., F.R.C.V.S., F.R.S.E., *page* 3).

Italian model top and the compressed air pump base, and is the latest word in convenience for aseptic surgery.

For convenience of explanation to classes, the students are so arranged in tiers that they get most excellent vision of all methods of detail, and this part of the theatre alone will accommodate sixty spectators. The floor space is sufficient to enable three, or even four, operation tables to be in use at once, and the lighting is arranged with this idea. Plugs in the wall are convenient for the attachment of the electrically-driven chloroform (or ether) vapour anæsthetiser; and this, by an ingenious arrangement of the "flex," can be carried to each of the operating tables, so that the anæsthetist can sit at his work in comfort.

The wash-bowls are all fitted with knee valves, and the taps with long-arm attachments, so that when once the operator is cleaned up he has no need to handle or touch these with his hands during the operation. Cloths and dressings are sterilised in a high-pressure boiler, the engine for which also generates the steam for the larger instrument and bowl sterilisers, and the instruments in actual use are boiled in an electric steriliser. The instrument cases are in metal of phosphor-bronze colour, and are designed and specially made to fit the respective wall spaces where required.

The floor is a special red-glazed tile, and the walls of impermeable material, easily washed down and cleansed, and painted a delicate light-green colour, very restful to the eyes. At last the College can say that it has got a surgical canine operating theatre that it is not ashamed of.

For cases of unusual interest, the adjoining room is fitted up as a small lecture theatre capable of holding some sixty students, and here one can not only give a dissertation upon the patient itself, but accommodation and full fitment is provided for demonstration of similar cases by lantern and cinema. A diagram and preparation room adjoins this, and the remainder of the floor is occupied by the private rooms of the professor in charge and his assistant. On this floor there is also a well-fitted clinical laboratory for the microscopical or chemical examination of skin parasites, urine, fæces, and anything else which comes in the category of laboratory teaching and technique. Another room, designed to hold **six** kennels for patients whilst recovering from the effects of anæsthetics after coming out of the operating theatre, is at present temporarily occupied as a laboratory too. The top floor of the building contains two complete suites of rooms, all electrically lighted and heated, and intended for the occupation of the house surgeons and one senior employee. Well-designed stairs and an electric lift provide a means of communication between each floor. The heating throughout is done by electricity, that of the rooms being on the panel system, and that for the sterilising of the instruments in the usual way from wall-plugs.

Outside, and adjacent, are small exercising grounds into which each dog is placed in turn, the arrangements made for the cats for this purpose being that

there is a run arranged under every two cages, sufficiently large to hold a tray on which is placed some sand or ashes, and a portion of tree stump on which the patient can use its claws.

The Kennel Building is on a somewhat different design, having a basement and three floors, the half only at present being completed. The basement is designed to accommodate a laundry, two kitchens, a food store-room, and a boiler which heats the building throughout. On the second floor are the mange and skin kennels, with separate exercising yards adjacent and outside. The floor above is for surgical patients, and their exercising ground is on the roof, which is covered in, and sheltered from the sun in summer and the rain in winter.

Each floor is designed to accommodate large and small dogs, and there are cat cages too. Each has its dressing-room and a room for the nurse or other attendant. Lavatory accommodation and slop closet accommodation for the removal of the dogs' excreta are also provided. There will be accommodation, when the hospital kennels are all completed, for about 120 patients. In this building, too, there are two well-equipped and well-lighted operating theatres, with a common sterilising room, and with overlooking galleries to accommodate about sixty or seventy students, so that practical demonstrations can be given on the actual operation cases without the operator being at all embarrassed or inconvenienced, as is so often the case when numbers of people are on the floor of the theatre itself. The equipment and lighting is on a similar plan to that already described in the operating theatre of the Beaumont Animals' Hospital, but the floor space is not intended to give facilities for more than one operation at a time.

The floor and walls are, as in the other theatre, of non-absorbent, easily cleansable material, and the position of the room makes it quiet and very convenient for demonstration work.

To the architect, Major Maule, D.S.O., F.R.I.B.A., with his two efficient and genial lieutenants, Mr. Powell, F.R.I.B.A., and Mr. Pennington, clerk of works, the College authorities are greatly indebted for much patience and skill in carrying out the requirements put before them—especially as designs for Veterinary Colleges are not carried out every day—and to the builders, Messrs. Rice & Son, and their foreman of works, Mr. Pelham, for the quality of the material, and also of the work done. These are only two out of eight or ten buildings of similar class; but at last, as stated in the commencement of this article, the opprobrium of being able to truthfully designate the Royal Veterinary College of London a "National Disgrace" is rapidly being done away with, and within two more years there is every prospect that a new and appropriate teaching school and clinical hospital will have been completed which will be able proudly to take its place in the front rank with those of our Continental and Colonial *confrères*.

CANINE MEDICINE.

By G. MAYALL, M.R.C.V.S.

Bolton.

I THINK it may be truthfully stated that the science and art of canine medicine have improved with the passing of the years. The vogue of castor oil and syrup of buckthorn for the treatment of all, or nearly all, ailments of the dog seems to have largely departed into the limbo of the past. No doubt the death of many dogs and the increased illness of others were due to the general use of these agents. To-day our profession is more up against the ignorant over-use of worm remedies; and not a few canines, from puppies to adult and aged dogs, are annually killed by real or supposed vermicides and vermifuges. There was wisdom in the advice of a member of our profession who recently mentioned the use of medicinal paraffin for worms. If this advice was spread and adopted among the laity much canine suffering might be avoided.

Perhaps the most difficult field for diagnosis and treatment in the dog is that of the stomach and bowel area. The history of cases and the present symptoms help us somewhat, but in many instances, unless we can have the dog under observation for a time, a diagnosis is largely guesswork. Two scientific methods now employed help us considerably, but in the general run of practice we are hampered by the sentimental attitude of the owner as regards exploratory laparotomy, or the expense attendant upon an X-ray examination.

I have had many dogs with inflammation of the stomach and small bowel that have passed away without being hopeful cases from the start. In the treatment of these subjects I have tried various remedies without a high percentage of successes. Perhaps most of them have been brought to a successful termination by the use of boiled water and 5-grain tablets of magnesium "perhydrol" (Merck), and the carrying out of a dietary suggested by Rudolf and Mendal in THE VETERINARY JOURNAL for August, 1932, pp. 363–365. Recently, in a case not characterised by much vomiting, but confirmed diagnostically by post-mortem, I used collosol-kaolin, and the patient certainly improved for a few days, but eventually died. When we consider the various agents now used in abdominal troubles by medical men I think there is room for a revision and review of our armamentarium in regard to gastric and enteritic therapeutic agents.

What can we do about pneumonia in the dog? In my early days I had many deaths from this malady, and was always anxious and sometimes depressed when I encountered cases. Nowadays I have many successes with small doses of whisky and acetanilid well sweetened with sugar, and a warm flannel coat, and menthol and winter-green cream or kaolin paste to the sides. High temperature under this treatment declines steadily. I have been surprised myself at some of the good recoveries my patients have made even when undoubtedly suffering from double pneumonia.

Many hysteria cases have recovered under treatment by "dial" tablets (rather dear in price), pot. bromide, the absolute discarding of biscuits or that "abomination of desolation" called "hound meal," and the use of a diet of bread dried in the oven and crumbled up and milk poured over it, with now and again a little meat.

A fairly recent addition to canine therapy has been provided by albumen-free hog-spleen solution. Troublesome cases of eczema have cleared up under its influence, and with two or three hypodermic injections. In addition cod-liver oil and liquor arsenicalis given orally have helped. Alopecia has been benefited by its use, especially when Professor Wooldridge's liniment of salicylic acid, cantharides tincture and castor oil has also been applied externally. Hog spleen is recommended in cases of asthma, but I have had no opportunities of using it in the dog as yet.

Dr. T. M. Paul, in *The Urologic and Cutaneous Review*, Vol. xxxiii, No. 11, 1929, writes of hog spleen as follows: "To state that urticaria will disappear in fifteen minutes, and that the itching and oozing of an eczema will cease in half an hour, and that an eczematous lesion, regardless of its degree of lichenification, will vanish in a few days as a result of hypodermic injection, seems preposterous, yet such has been the writer's experience in a series of sixty-one cases." I believe some veterinary surgeons have found the injection of hog spleen useful in cases of canker in the horse.

Vitamins play a useful rôle in some cases of canine and feline debility. In kittens fed on pasteurised milk, and showing weakness on the legs and *malaise*, I have seen wonderful results through the use of daily doses of ostelin vitamin D, which controls the assimilation by the body of calcium and phosphorus. Not much has been written in canine medicine about the use and effect of dextro-calcium, but in cases of shock and hæmorrhage in the dog I have found it to be a beneficial agent when injected hypodermically.

In a bitch with a fluttering and irregular and weak heart after a somewhat prolonged illness associated with mammitis, and in the convalescent stage, I attributed ultimate recovery largely to the use of Lacarnol, which is a muscle extract and a nucleoside vaso-tonic regulator.

Istin, in small doses, combined with salvolatile, has proved very useful in some cases of weak digestion and iregular action of the bowels in the dog.

The man who desires to keep abreast of the times in canine medicine must be somewhat of a voracious reader, and possess some powers of discernment and discrimination. I have not had much experience with the Laidlaw-Dunkin vaccine and virus, but where I have used it I have been pleased with the result. Apart from slight localised eruptions of a transient character arising after using the virus I have seen nothing of any note. My clients are chiefly middle class, and their dogs mongrels, and only a few will stand the expense of the inoculation.

XUM

FIG. 3.—The Dispensary of the Beaumont Animals' Hospital (Royal Veterinary College).

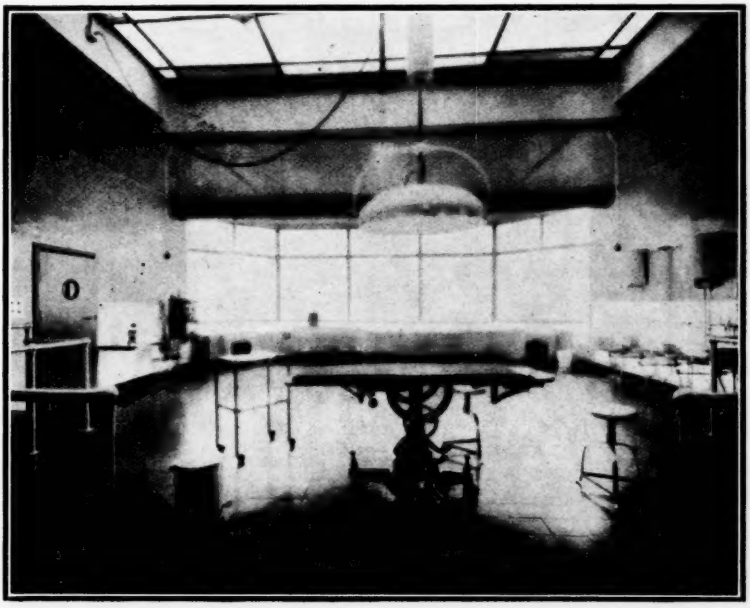


FIG. 4.—The Canine Operating Theatre in the Beaumont Animals' Hospital (Royal Veterinary College).

(*Article by* Sir Frederick Hobday, C.M.G., F.R.C.V.S., F.R.S.E., *page* 3).

FIG. 5.—A portion of the new Kennel Block of the Royal Veterinary College.

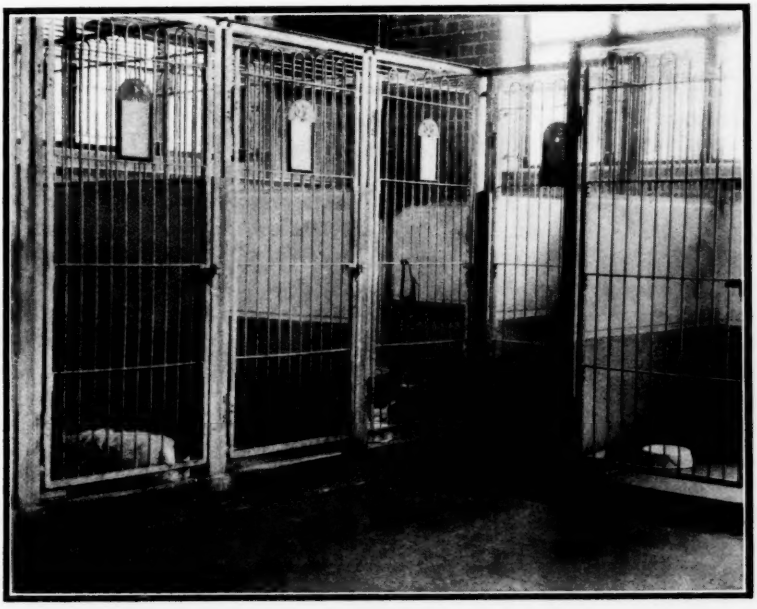


FIG. 6.—The Surgical Kennels.

(*Article by* Sir Frederick Hobday, C.M.G., F.R.C.V.S., F.R.S.E., *page* 3).

In minor surgical operations, and eye and ear and anal cases, I am fond of witch-hazel (liquor hamamelidis), and use a good deal of it, and also internally for blood in the urine along with other styptics. It is a drug apt to be overlooked, and apparently not much known among students, but I have found it very useful in many cases.

RABIES IN SOUTH AFRICA.

By SIR ARNOLD THEILER, K.C.M.G.

Honorary Associate of the Royal College of Veterinary Surgeons.

It is customary to associate with the name of rabies primarily a disease in dogs communicable to man and all mammals by the bite of the animal that has become vicious and aggressive. In England and in most countries of the Continent strict measures are taken to eradicate rabies as soon as it makes its appearance. These measures apply naturally in the first instance to the infected animals, but in order to arrive at an early suppression of an outbreak, attention is also given to the healthy dogs in the area. Past experience has shown that the dog is the main source of spreading the disease, which can be averted by the control of its movements. Contrary to this experience of Europe, rabies in South Africa has within the last two decades assumed quite a different aspect. It appears primarily not to be a disease of the dog, which cannot be accused to be the main distributor of the infection. It has been found that under natural conditions the mongoose (*Cynictis penicillata*) is the principal carrier, but also the genet cat (*Genetta felina*), the suricate (*Suricata suricatta*), and to a lesser degree the pepper-and-salt meercat (*Myonax pulverulentus*) act as virus reservoirs. Vvierridæ are thus responsible for the maintenance and spread of rabies. This knowledge is of comparatively recent date. An obscure situation had existed for some time, and has only been cleared up since 1928 through the investigations of the Union Department of Public Health and the Veterinary Laboratory, Onderstepoort. The problem has turned out to be not only a very interesting one, but one that has given cause to great anxiety in case rabies should spread finally amongst the larger carnivores, which in the natural parks and reserves are protected, and accordingly are increasing steadily in numbers in correspondence with the food supply, which the protection of all wild life assures. This peculiar behaviour of the disease, as yet restricted to the one family of carnivora, and the apparent failure to become epizootic in others, domesticated or wild, has cast some doubt on the identity of the virus found in South Africa with that of Europe and elsewhere. Biological and histio-pathological investigations have, however, shown that the diseases must be considered to be identical, although as yet the one differentiating experiment of cross-testing immunity has not been completed. In the experiments undertaken for the purpose of the identification of the virus it was, besides to the mongoose, successfully transmitted to rabbits and guinea-pigs. In all these animals the symptoms of typical rabies (practically always the

dumb form of the disease), were noted after a varying incubation period. In the central nervous system of almost all of them, the characteristic Negri bodies could be found.

The history relating to the discovery of rabies in Viverridæ is very interesting, and should be told as an example how intricate the problem of rabies may present itself, which, by the way, has had its parallel in Jamaica and South America, where finally a blood-sucking bat was traced to be the carrier. Since 1916, cases of a disease in men were reported and diagnosed by members of the medical profession as rabies. All were fatal. In most instances the disease showed itself subsequent to a bite of a mongoose or a genet cat, and after an interval of about one to two months. In some instances the disease was connected with the bite of a dog, inflicted eight to twelve weeks previously. In no case was there any confirmation of the diagnosis by the application of laboratory methods; or, when they were undertaken they failed, because the material supplied had been unsuitable, usually as a result of decomposition. At that time the veterinary department was unaware of the existence of rabies in dogs or other domesticated animals, and naturally even less of its prevalence amongst wild animals. Accordingly the diagnoses of rabies reported in dogs were always looked upon with suspicion. Indeed, at that time there was no knowledge of any epizootic south of the Zambesi, such as had been the case in 1893, when it was introduced by an Airedale terrier to Port Elizabeth, and spread to the surrounding districts until it was finally eradicated; or in 1902, in Rhodesia, where it also assumed a considerable extension and disappeared again in 1913.

The first case, which was instrumental in clearing up the obscure situation, occurred in November, 1928, in the district of Klerksdorp. The subject was a boy, and the disease was recognised by a medical practitioner as rabies, and the patient was brought to the district hospital, but died *en route*. The second case occurred a few days later in another boy of the same locality, who also died. In both instances an autopsy was made, and the brain was forwarded to the Laboratory of Medical Research in Johannesburg and to the Veterinary Laboratory in Onderstepoort. In both cases the diagnosis was confirmed by biological and histio-pathological investigations. Both outbreaks were related to the bite of a mongoose. A sick mongoose had been caught by children on their way to school, and the two boys were bitten. In the laboratory of Onderstepoort the original material was injected into rabbits, guinea-pigs, and a mongoose, to all of which it transmitted the disease in due time. The situation was thus cleared up, and the results were broadcasted to the country with the invitation to all concerned to be on the look out for rabies, and to report all suspected symptoms in whatever animal they may be noticed. In January, 1929, another case occurred in a girl near De Aar, who while sleeping out of doors was bitten by a genet cat. The child died subsequently, and the diagnosis was confirmed by inoculations into rabbits. In February, 1929, rabies was reported in a dog in the Boshof district, which bit the owner and a native servant. Looking suspicious,

it was tied up, but escaped and bit some pigs and cats. It was caught again, and then died. The head was sent to Onderstepoort, and the diagnosis of rabies was confirmed. Subsequently the native and two pigs died from rabies, whilst the owner, who had submitted to treatment, escaped. The source of infection in the case of the dog was not known. In April, 1929, a sick mongoose was caught near the place where the two boys mentioned above had been infected. It was sent to Onderstepoort, where it arrived dead. Microscopical examination and the biological test proved it to be positive for rabies. In May, 1929, the disease was diagnosed in an ox, which, after having been bitten by a mongoose, died; the diagnosis of rabies was also confirmed at Onderstepoort. Between May, 1929, and September, 1930, rabies was diagnosed in five instances, and on different farms in mongooses (*Cynictis penicillata*), twice in genet cats (*Genetta felina*), once in a pepper-and-salt meercat (*Myonax pulverulentus*), and once in the suricate (*Suricata suricatta*). Of particular interest was the case in the suricate, where it took an abnormal course, showing a recurrence and death after the first attack, from which it had apparently recovered. Between April, 1930, and September, 1931, the disease was diagnosed in two men, one dog, five oxen, and one suricate. In the case of one man (a European boy), the bite of a dog, and in the second one (a native), the bite of a yellow mongoose had been recorded. In September, 1931, the disease was also diagnosed in a sheep, which succumbed after having shown aggressiveness towards sheep and men. During the year 1932, positive cases were diagnosed six times in the mongoose, three times in a genet cat, once in a suricate, twice in a domestic cat, twice in an ox, once in a dog, and in three men. In the case of the dog, the transmitting agent was the genet cat; in the case of two men (both Europeans), it was the mongoose, and in the third man (a native), also a genet cat.

Since the first definite diagnosis in November, 1928, there were forty-four cases of rabies in different animals, including nine in men, all of which were diagnosed by laboratory methods. There were some more that ended fatally, but were not submitted to laboratory diagnosis. Rabies was found three times in the dog. The total number of eighteen cases in 1932 raises the question whether the disease is on the increase. This question can as yet not be answered definitely, the increase in the number of cases reported may simply be the result of greater attention having been given to the problem after it had been shown that the Viverridæ play the main rôle in the spreading of the disease.

Rabies has as yet not been diagnosed in the whole of the Union. There are several not contiguous areas in the Transvaal, the Orange Free State, and the Cape Province, in which it has been found. The areas have extended every year, and it is to be expected that the intervening spaces will in due time also be found to be infected. Of particular interest is the fact that in the Transvaal the infected area extends eastwards towards the lowveld, and one can understand the anxiety existing amongst the experts, who foresee the danger of the epizootic spreading to the denizens of the national park, with consequences that are almost

unthinkable, to quote the expression of the gentlemen who reported on the disease in 1932.

The question of the origin of this so-called Viverridæ rabies has, of course, also received attention. The possibility that the epizootic of 1893 was responsible has been ruled out. About the 1902 outbreak of Rhodesia, opinions differ. It is thought (*e.g.*, by du Toit) that this outbreak, which lasted up to 1913, is the possible source. Neitz and Marais, however, express quite a different opinion. According to them rabies has probably existed in the Colonies now forming the Union of South Africa for many years before the first case in 1928 was definitely diagnosed. They refer to historical writings between the years 1772 and 1861, which would point to a rabies-like disease having existed probably for centuries, without a single flare-up. They refer also to native traditions, according to which the saliva of the genet cat possesses poisonous properties, the bite being followed later by symptoms resembling hydrophobia, more or less, and of which the patient dies two or three weeks later. This statement is contained in Fitzsimon's " Natural History of South Africa." This native tradition is, of course, no definite evidence for the presence of the disease, which has previous to *ca.* 1916 escaped the notice of the people who were primarily interested in it, but it certainly cannot be ignored as idle talk.

The present South African epizootic has not behaved as one would expect rabies to do, *viz.*, spread amongst the dogs, as it did in 1893, after its introduction into Port Elizabeth, and in the 1902 outbreak in Rhodesia. This peculiar fact is considered to be an epizoological characteristic, the virus having adapted itself to the Viverridæ. From the observations made in the veld, as quoted before, there is sufficient evidence to show that dogs do become infected through the bite of the Viverridæ, and that in turn the dogs have transmitted the disease to man and to pigs. There is accordingly no reason why they should not transmit it to other dogs, or jackals, and so start an epizootic in canines. There may be circumstances of quite a different nature, connected with other conditions and not inherent in the virus thought to be adapted to the Viverridæ, which were as yet unfavourable for the spreading by dogs, but there is no reason why one day suitable conditions should not present themselves, and the disease may flare up in the classical manner to which the epizootologists are accustomed.

The present rabies, being primarily a disease of the Viverridæ, animals living in burrows and difficult to get at, the question of eradication by killing off these animals, as is done in the case of the domesticated dogs, becomes an almost hopeless proposition. This is the opinion of the South African experts. So long as the disease remains confined to the Viverridæ, the danger for man is relatively small, and can easily be averted if wandering sick Viverridæ are left alone. As to what is going to happen when other carnivorous animals become infected is a matter for conjecture. It is quite possible that the disease will die out again, since it must kill off a good many of the meercats and thus reduce the danger proportionally. Such an ending is in conformity with the general epizoological

XUM

Specimen showing lesion in œsophagus.
(*Article* by J. McCunn, L. Balls, and C. Haselden, *page* 13).

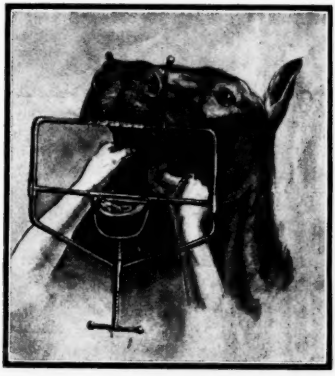


FIG. 1.—Mr. Elam's mouth gag applied to the horse.

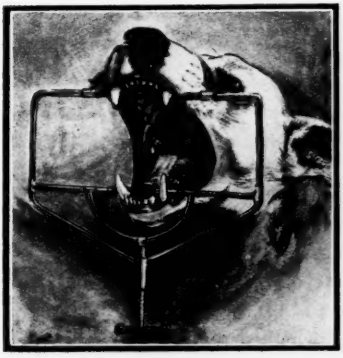


FIG. 2.—Mr. Elam's mouth gag applied to the dog.

(*Article by* C. W. Elam, M.R.C.V.S., D.V.H., *page* 33).

experience, and it is to be expected that it will also hold in this case. The present outbreak may still be on the ascending branch of the epizoological curve, and may not yet have reached the climax, after which the infection will again return to a minimum. Before this stage is reached again the expected flare-up may or may not have taken place.

LITERATURE.

Du Toit, P. J.: "Rabies in South Africa." Pan-African Agricult. and Vet. Conference, Pretoria, 1st to 17th August, 1929.

Thomas, A. D., and Jackson, C.: "The Value of the Midbrain in the Diagnosis of Rabies in Rabbits." *The Jour. of the South African Vet. Med. Association*, Vol, 1, No. 4, October, 1930.

Neitz, W. O., and Marais, I. P.: "Rabies as it occurs in the Union of South Africa." 18th Report of the Director of Vet. Services and Animal Industry, Pretoria, August, 1932.

Neitz, W. O., and Thomas, A. D.: "Rabies in South Africa: Occurrence and Distribution of Cases during 1932." *The Onderstepoort Jour. of Vet. Scs. and Animal Industry*, Vol. 1, No. 1, July, 1933.

Du Toit, P. J.: Report of the Division of Veterinary Services and Animal Industry. *Farming in South Africa*, Vol. VIII, No. 93, December, 1933.

A PECULIAR CASE OF ŒSOPHAGEAL OBSTRUCTION.

By J. McCUNN, L. BALLS, and C. HASELDEN.

Royal Veterinary College, London.

The subject was a four- or five-year-old Aberdeen terrier, which was sent to hospital, in November, 1933, by its own veterinary surgeon, who was in doubt as to a diagnosis. The history was a follows: Towards the end of August, 1933, the dog was out exercising in the garden. Suddenly it rushed into the house, champing its jaws, frothing at the mouth, and showing considerable fright or excitement. The owner thought that probably some foreign body was lodged between the teeth or in the throat. A thorough inspection by the owner, and afterwards by the veterinary surgeon, did not reveal such a cause. In a few hours the dog was apparently normal again, and gave no cause for alarm until about three weeks after the original attack.

The following symptoms were now shown: At intervals lasting about fifteen minutes, and occurring sometimes three or four times a day, the dog was subject to an attack of general muscular twitchings. These were followed by an arching of the back, a tensing of the thoracic and abdominal muscles, with flexion of the neck as if he was about to vomit. There was considerable pain, for small, sharp yelps were emitted, and particularly was this so if pressure was applied to the dorsal or lumbar region of the spine. When the attack was about to pass off, a considerable quantity of frothy, mucus-like material would be emitted. This vomition generally coincided with the end of an attack. Palpation, auscultation, and other clinical methods of examination revealed nothing to account for the symptoms shown. It was thought that there was probably an œsophageal obstruction in the thoracic part. Against this theory was the fact that a probang and a large-sized sound passed with the greatest of ease into the stomach. The presence of a foreign body was also excluded by the

aid of X-rays. On the X-ray film a faint thickening of the œsophagus was noticed slightly anterior to the diaphragm, and a tentative diagnosis was made of: (1) An extra-œsophageal tumour; or (2) enlarged mediastinal glands. A barium meal was given with negative result.

It was decided to operate upon the dog in the hope of arriving at a diagnosis and attempting to alleviate the symptoms, for the animal's life was a misery to itself and its owner. Permission was given for destruction if nothing useful could be done. The œsophagus was examined from the stomach end, and also *via* the neck. Nothing tangible to account for the symptoms was found, and so the dog was destroyed.

A post-mortem (see illustration) was immediately made, and the following lesions found: The roof of the œsophagus, just in front of the diaphragm, showed a recently healed or cicatrised area with a ragged edge, and about one-quarter of an inch diameter. In the centre of this area there was a small hole which admitted of the passage of a small probe. This probe passed into the posterior mediastinum. There was a certain amount of local inflammation, but this was strictly limited to pleura adjacent to the hole. It was now possible to reconstruct the sequence of events. The first attack in August was no doubt due to the ingestion of a foreign body. This foreign body was arrested for a short time in the œsophagus, and it damaged the mucous membrane. It evidently had a sharp point, for it punctured the œsophagus. It was most probably of bone tissue, for no trace of a foreign body was found at the post-mortem, and as is well known, bone can be disintegrated in the digestive tract.

The lumen of the œsophagus was patent, as was shown by the passage of a sound, X-ray photos, and the fact that the animal partook of its ordinary food. An explanation of the symptoms shown latterly may be as follows: The hole was too small to admit of particles of food, but it was possible for mucus to pass through it. This mucus passed between the two layers of the mediastinal pleura, and the swelling so caused exerted pressure on the œsophagus in the same way as would a tumour. When this pressure assumed a sufficient degree the train of symptoms was set in motion. The terminal act of vomition emptied this pleural sac into the œsophagus, the irritation ceased, and the symptoms disappeared. It is questionable whether one could have done anything useful, even if all the circumstances had been known before death.

A CASE OF MUMMIFIED FŒTUS IN THE BITCH.

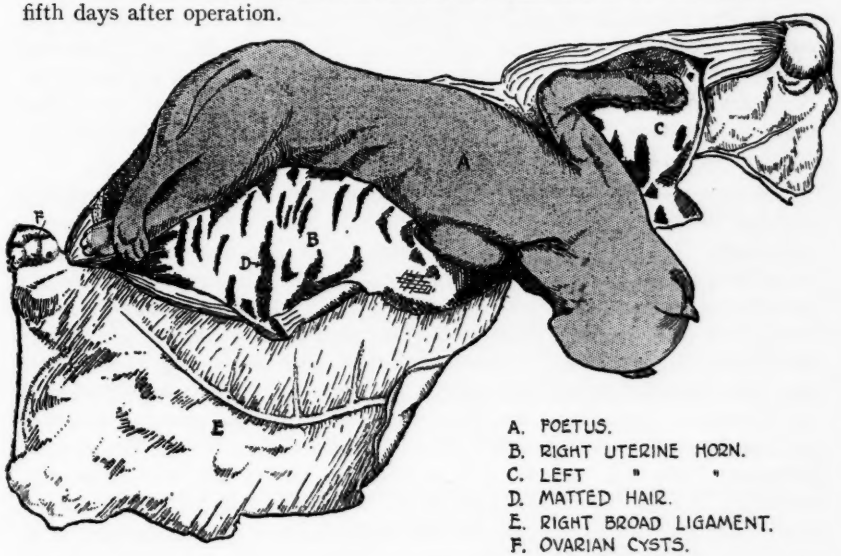
By J. G. WRIGHT, F.R.C.V.S.

Professor in Charge, Beaumont Animals' Hospital, Royal Veterinary College.

Subject.—An eight-year-old field spaniel bitch.

Breeding History.—(1) In 1928, when three years old, the animal whelped a normal single fœtus at full term. Parturition and lactation normal. (2) March 8th, 1933.—Bitch pregnant with one fœtus. Duration of pregnancy seventy-four

days. Uterine cervix closed ; animal in normal health ; no evidence of approaching parturition. Cæsarean section performed, and a dead but sterile fœtus removed from the right uterine horn. Recovery uneventful. (3) August, 1933. —Œstrum. Bitch " accidentally " mated between the 8th and 21st. December 5th, pregnant ; period of gestation between 106–119 days. Hysterectomy performed. Right uterine horn gravid with a single fœtus. Fœtus undergoing mummification. Recovery uneventful but for some icterus on the fourth and fifth days after operation.



A. FOETUS.
B. RIGHT UTERINE HORN.
C. LEFT " "
D. MATTED HAIR.
E. RIGHT BROAD LIGAMENT.
F. OVARIAN CYSTS.

The first operation was performed on the seventy-fourth day. The usual technique was adopted, the gravid horn being incised parallel with its long axis, along the greater curvature. The amnion had ruptured, and the placenta was detached. The uterine horn contained several ounces of dark-green, viscid liquid. The fœtus and placenta were removed, the interior of the horn swabbed, and the incision closed by Czerny-Lembert silk sutures. Peritonisation was effected with omentum. Diagnosis of the last pregnancy was easily established by abdominal palpation and rectal exploration. A radiograph was taken, and this shows the bony outline of the fœtus occupying the right uterine horn. The bitch was in normal health. A second operation was performed. Adopting a paramedian incision, the complete uterus and contents were removed. Section of the uterine body was made through the sealed cervix. The technique of operation was somewhat complicated by the extensive omental adhesions to the right uterine horn. The abdomen was closed by two layers of No. 1 catgut interrupted sutures.

The right uterine horn was occupied by a fully developed but partially mummified male fœtus weighing 9 oz. The fœtal membranes had entirely dis-

appeared, being replaced by a sticky glutinous material. Adherent to the uterine mucosa were matted clumps of fœtal hair. Presentation was abnormal. The head, which occupied the uterine body, was flexed at the occipito-atlantal joint, the chin being compressed against the right shoulder. The fœtal trunk occupied the right cornu, but the left forelimb, which was rotated at the elbow, was lying in the left. Three cysts were present in the right ovary.

Dissection of the fœtus revealed the following: The abdominal cavity was empty, the viscera being entirely digested. The pelvis was occupied by the terminal one-inch of the rectum and the bladder. The right vas deferens was found, but no testicles. The penis was present. The diaphragm was complete; the heart appeared as a grey, fibrous sack; the unexpanded lungs were almost normal. The face was deformed by pressure. The orbits contained sunken, collapsed eyeballs.

Discussion.—An abnormally long period of gestation in bitches pregnant with one fœtus is not rare. The writer has on a number of occasions recorded such cases. The fœtus is dead, but, provided the cervix remains closed, is sterile. It has been suggested that the abnormal size attained by the single fœtus causes a pressure-paralysis of the uterine musculature. It is significant that when the cervix does dilate in these cases (usually between the seventy-fifth and eighty-fifth days), there is generally complete uterine inertia, which may cause a fatal dystokia. Whether or not the malpresentation of the fœtus is associated with the absence of parturition, is not known. The writer has recorded a case of prolonged gestation with mummification of the fœtus in the cow (THE VETERINARY JOURNAL, 1931, Vol. 87, No. 10) in which a similar malpresentation was present. This is the second occasion in which the writer has observed an abnormally long period of gestation with a single fœtus, in the same bitch, at successive pregnancies. It is recommended that when such a case is encountered, Cæsarean section shall be immediately performed, and in future mating withheld.

I am indebted to Mr. E. R. Ambrose, M.R.C.V.S., for the opportunity of observing this case.

FRACTURE OF THE FEMUR IN THE DOG.

By A. C. SHUTTLEWORTH, B.V.Sc., M.R.C.V.S.

Department of Veterinary Anatomy, University of Liverpool.

WHAT is responsible for the fact that the femur is the bone most frequently injured in the dog? Although one of the longest bones in the body, it is structurally by no means a weakling. Its proportion of compact and cancellous bone is quite normal, and in cross-section it is seen to be that strongest of mechanical structures, the cylinder, for the greatest part of its length. It is well guarded from injury, particularly inwardly, by the trunk, and its covering of massive muscle would appear to be a great protection. Only at the lower extremity does

FIG. 1.—Fœtus recognised in right uterine cornu.

FIG. 2.—Uterus, uterine cornua and fœtus.

(*Article by* J. G. Wright, F.R.C.V.S., *page* 14).

this muscle layer thin down into a fascial covering, but fractures in this region are not frequent. The adjoining tibia, although more slender than the femur, subcutaneous for a great part of its length, and unprotected by the trunk, is not more commonly broken than the femur.

The hindquarters are the greatest sufferers in motor accidents, the head and forequarters being usually extricated. Self-preservation compels the protection of the head, the hind parts are thus left to provide for themselves, and suffer the greater number of accidents. As direct blows can do little harm to the muscle-protected shaft unless very violent, it is probable that most of the fractures are due to indirect force. Leverage of the second degree is possibly one of the commonest sources of injury ; the stifle resting on the ground, the upper extremity of the femur supported by the pelvis, and the vehicle passing over the shaft. Violent torsion upon the lower part of the limb will give the long spiral and oblique fractures so common to the femur. Muscular action undoubtedly assists in the production of the gross fractures sometimes seen, where the bone has virtually burst into fragments. A similar phenomenon is sometimes seen in the racing greyhound. The stress upon the bones of the limbs when cornering at high speed, combined probably with a momentary loss of control, produces such a torque that shattering of the femur occurs. Uncontrolled muscular action at the instant will assist the breakage.

The fractures are rarely transverse. The commonest type being diagonally upwards and backwards, spiral or longitudinal fractures are not uncommon. Compound fractures are not usual, but in the lower portions of the bone, when the upper fragment overrides the lower, and appears in the patella region, one may be presented with a compound fracture. Otherwise the fascial and muscular coats are sufficient to contain the fragments. The immediate result is, of course, acute lameness. The limb is carried forward, adducted and supported by the sartorius muscle. This muscle is attached to the median patella region, and as it arises from the iliac crest, it is enabled by its undisturbed origin to regulate movements of the lower fragment. The leg is invariably shortened by the over-riding of the fractured parts. The gastrocnemius muscle, arising low down on the posterior surface of the bone, drags the lower fragment backwards, while the contraction of all the other associated muscles draws the two parts over each other.

The methods of dealing with fracture of the femur are many and varied, each having its devotees. It is a subject upon which much work is required and new technique produced before the veterinary profession can be satisfied. The anatomical difficulties encountered when fracture of this bone occurs are well known and fully recognised, and for this reason, probably the most perfect means of bringing about correct and permanent coaptation and immobilisation is by metal splints or wire applied to the bone itself, or by medullary pegs.

Unfortunately in canine surgery the difficulties of application are great. The ever-present difficulty of attaining perfect asepsis being the chief of these. Again, the insertion of screws into the small femora of some dogs, and the size

of the plates supplied for human surgery, make the technique very clumsy. Alternatively, if plates and screws of suitable size are to be used, the method is expensive, and the material not sufficiently strong to withstand the continual movement of our patients. This movement, which cannot be controlled, even if an external splint be used in addition, encouiages the loosening of screws and wires, and even the bending of the plates. Medullary splints promise the greatest success.

Even the most perfect and ingenious external splint will not immobilise the fractured parts of the bone. Indeed, if the fracture be high, a splint is a hindrance to union. A heavy splint, such as plaster of Paris, is particularly dangerous. To prevent vascular interference, the whole leg to the foot is enclosed in the splint. This places the preponderance of weight well below the fracture. The movement of the animal is followed by exaggerated movement of the lower part of the splint. This action is transferred to the most mobile part of the leg. Unfortunately, as the joints are locked by the splint, this mobility is provided by the fractured region. The extension almost invariably insisted upon when splinting, converts the leg into a most awkward member for the dog to transport, and the care that is lavished on an injury is thus negatived. Atrophy of muscle and anchylosis of joints are a not uncommon sequel to prolonged splinting.

A comparison of results of splinting and non-splinting shows no appreciable difference. The limb is invariably shortened in each case, and the callus formation great. It will thus be seen that the anatomy of the dog's thigh, and the continual and unavoidable movement of the patient following splinting, compel the conclusion that in its present form the external splint cannot be used with confidence.

The "charge," composed of some plastic material shaped to the thigh and limb of the animal, although supposedly obsolete, has virtues not possessed by the splint. At least it does no harm! It is well supported by massive muscular and bony structures in the region of the buttocks, assists the dog to immobilise the whole limb, and guards from small injuries. As an instrument to retain a reduced and coapted fracture it can have little effect. The mobility of the skin and the heavy muscular covering to the bone effectually prevent the charge from influencing the condition in any degree.

Passive treatment of fracture of the femur implies non-interference by any type of splint or instrument. An attempt should be made to reduce and correct the fracture under a general or local anæsthetic. Comminuted, oblique, or longitudinal fractures will not retain their correct position, but some relief may be obtained, so that extreme shortening of the limb will not occur. Following the attempts at reduction, the injured member is left in charge of the dog, who will nurse it admirably. Exercise is severely restricted in order to minimise movement. The animal carries the limb very carefully in a semi-flexed position of all the joints, and slightly adducted. The mass of muscle surrounding the thigh acts as an effective splint, immobilising the whole length of the bone. The hæmorrhage

XUM

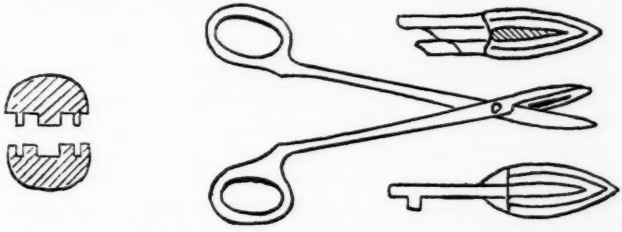
and inflammatory œdema also assist. The shortened limb resulting from fracture is soon adapted by the animal to reasonable function. The normal angles of hip-joint, stifle and hock are extended to overcome the disparity in length. If the shortening is extreme the metatarsal joints are also extended, necessitating walking on the toes.

CLOSURE OF THE UTERINE STUMP.

By GEORGE DYKES, M.R.C.V.S.

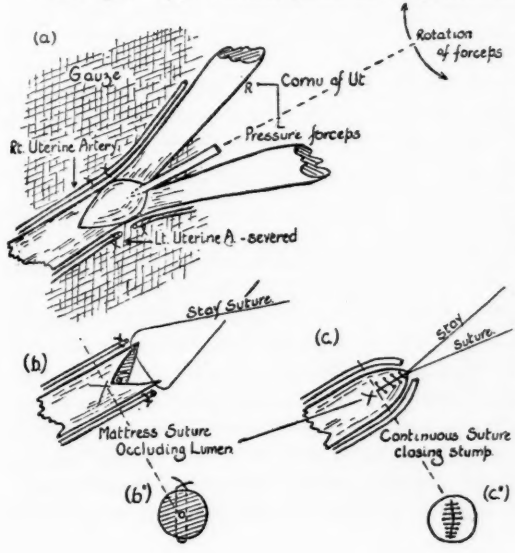
Glasgow.

Object.—To provide, *via* simple technique, an efficient closure of the stump of an ablated womb in carnivores, where, owing to hyperplasia of the wall thereof, closure by invagination or other means would be difficult or impossible.



Instrument.—In felines and small canines Greig Smith's artery forceps have been used with success. For larger subjects an enlarged pattern is required.

Technique.—(1) A sterile gauze fold is placed between the body of the womb and bowel; (2) pressure forceps are placed as shown in diagram (*a*); (3) by turning the pressure forceps on their own linear axis, the right and left uterine arteries are respectively presented for double ligature and section between same—diagram (*a*); (4) by carrying a knife close down both sides of the compressing forceps to their apex one is left with a fish-tailed incision—diagram (*b*); (5) close the lumen of the stump with a mattress suture—diagram (*a*) and (*b*); (6) employing a stay suture approximate and retain the



tails of the incision—diagram (*b*) ; (7) elevate stump so as to bring the dorsal plane into view ; (8) finally, commencing at the most distant part of the incision as exposed by (7), close the tails by a continuous suture, which engages both the serosa and hyperplastic wall—diagram (*c*).

May this method prove as helpful to my colleagues as it has to me in those cases where the thickened wall defies methods which give satisfaction in other presentations.

THE MISUSE OF DRUGS.

By DAVID ERIC WILKINSON, M.R.C.V.S.
Chigwell.

In writing on the subject of medicine it is easier to be critical than constructive. With experience comes a certain amount of introspection which leads to scepticism of text-book teachings. In no branch of medicine is this doubt so deep as in materia medica. The preconceived infallibility of remedies breaks down, and specifics for the treatment of disease becomes fewer. Some sceptics go so far as to say they " do not believe in drugs," and pin their faith to the *vis medicatrix naturæ*, probably at the same time prescribing some " simple " remedy whose potency they little suspect !

Whilst not entirely abandoning faith, one may often reasonably doubt the efficacy of some standard drug, but is it always wise to throw on the selected remedy the blame of failing to cure the ailment under treatment ? Would it not be more reasonable to query the cause of this failure, and see if it cannot be docketed under some other heading than the uselessness of drugs ? May it not arise from some secondary action of the prescribed remedy which one has overlooked whilst making use of its primary action ? To a patient's idiosyncrasy, or to overdosing ? Or is it not due to some hygienic defect in the environment of the patient, some overlooked essential of nursing, or of that careful dietary which must go hand in hand with the successful administration of drugs ?

Errors in prescribing are very common in practice, and every practitioner is liable to commit them. The wise and experienced practitioner will recognise and correct them before harm is done, but in general practice it is easy to fall into a routine of error unless one remembers always that the use of a drug is the restoration of functional activity of the organ for which it is prescribed. One of the most common errors which the canine practitioner is liable to commit is the abuse of narcotics and sedatives. In his laudable desire to allay pain or to soothe the agitated feelings of distressed owners, he is often led into the error of administering narcotics against his better judgment in cases of severe injury, and its resultant shock, or to the prolonged use of sedatives in cases of delirium and cerebral disturbance. The injurious effects of morphia on a patient suffering from shock following a severe motor accident, accompanied by wounds or fractures, are obvious to the thoughtful clinician, yet this practice is commonly pursued.

Surely the hypodermic administration of normal saline or glucose solution with the provision of comfortable surroundings and the immediately necessary surgical attention is a more rational procedure. In a few hours this line of treatment will be followed by a restored balance of circulation and a general restoration of normal functions, so far as they are not interfered with by the actual results of the injury, instead of the dulled stupor, constipation and general depression and suppression of function following profound narcosis.

In the treatment of the common forms of delirium in the dog much harm is done by the prolongation of sedative treatment. After an initial dose of some sedative to allay the primary excitement and irritability in a first attack some attempt should be made to treat the disease and to remove its cause, instead of masking the symptoms by sedatives. Granting that the nervous diseases of the dog are obscure and baffling, it is rare to find recovery follow the prolonged administration of sedatives such as the bromides, and cases of functional paralysis following such treatment are by no means uncommon.

In the treatment of tetanus by chloroform inhalation, much practised in human medicine, it is now recognised that unless antitetanic serum is administered during anæsthesia, the tetanic convulsions are much more severe and violent on the return to consciousness than before the anæsthesia, and the writer is firmly of opinion that in cases of cerebral congestion in specific diseases such as distemper, the induction of deep narcosis is often followed by grave relapse. Overdosing is perhaps not very common, but the text-book doses of hexamine, for example, are excessive and liable to bring this useful drug into disrepute by setting up hæmaturia, whilst the massive doses of calcium lactate it is now the fashion to prescribe are incapable of assimilation, and, if not harmful, are largely inert. Cod-liver oil given in large doses interferes with gastric secretion and aggravates the malnutrition for which it is often prescribed.

There is undoubtedly a " fashion " in drugs, and the established use of many medicaments often leads one astray. In gastric disorders the salts of bismuth have for long held pride of place, although their efficacy in anything more than slight gastric irritability is more than doubtful. Indeed, in gastric catarrh with profuse exudate from the glands, the presence of insoluble powders may do harm, and a more rational treatment would appear to be that so popular in France—the administration of small doses of an aqueous solution of iodine.

In consultation on a case of duodenal ulcer with hæmatemesis, the writer had great difficulty in persuading a colleague that the administration of morphia to allay the evident acute pain was fraught with the danger of perforation, but was eventually allowed to substitute small doses of cocaine. This drug gave almost instant relief, whilst its secondary action as a cardiac stimulant is infinitely preferable to the depressing after-effects of morphia. Amongst other drugs practically banished from the writer's pharmacy are castor oil, on account of its nauseating and constipating after-effects, and sulphur in any form as a skin dressing. The prolonged application of this drug to the skin will result in a

XUM

Please don't be cross, Captain. I'm so dreadfully sorry. Besides, you know, darling Fido is not a great big common dog, he's only a teeny weeny little peke, and, oh, so intelligent and so clean.

Makes no difference, Madam, no dog can be landed in England without a permit from the Board of Agriculture, surely you must know that ?

Yes, I know ; but I simply won't have my little darling shut up in quarantine kennels for six months. It's so very unnecessary. Why, he's only been six months in India, and he always had his own dog boy to look after him, and every night he sleeps on my bed, and he'd fret himself to death away from me. Do be an angel, Captain, and don't make a fuss about it. I'll pay anything you like for his passage, and promise you he'll be a good little doggie. Won't you, Fido ?

Madam, you don't understand ; I must make a fuss ; you can't land the dog without a permit, and that's an end of it.

Oh, but it isn't, Captain. What are you going to do with him ? Throw him into the sea ? I won't let you, I won't ! I'll jump over, too, if you do. I will, I mean it ! So what are you going to do now ?

Do calm yourself, Madam. I've no intention of putting your dog overboard, but I insist he is shut up by himself in charge of one of my officers while he is on board my ship. Then, unless you desire to land him at Port Said or have him destroyed, I must wireless to our Southampton agents to have a Board of Agriculture official meet the boat there. You can have it out with him as to what you can do.

All you men, Captain, are simply cruel beasts. I won't have Fido shut away, so that's that !

Sorry, Madam, but I'm afraid I must insist. Oh, Mr. Jones, there you are. This lady has smuggled this dog aboard at Bombay, and has no licence to land him in England. I'm putting the dog in your charge till we land. See the carpenter and fix up some place in which you can isolate him. On no account must anyone but yourself and one hand, who will feed and exercise him—on a chain, remember—be allowed near him. Instead of a hand, you, Madam, may feed and exercise him, provided you agree to do it under supervision, and when and where you are told. You will be responsible, of course, to the Company for any costs incurred. All right, Mr. Jones, take the dog away. Watch he doesn't get you. Better put him in your cabin and lock the door until the carpenter fixes up a kennel of sorts. Now, Madam, please let Mr. Jones carry out his orders. Cut along, Mr. Jones. Im, sorry, Madam, but you see I've no option.

I don't see ! I won't see ! And I won't have Fido shut away by himself one moment longer than I can help—it's horrible cruelty. I'll land at Marseilles. The French don't make all this fuss about poor little dogs.

Madam, I'll be delighted to see you land at Marseilles, but I think you'll find the French Customs are not quite so easy as you imagine. In any case,

as you appear to think smuggling your dog legitimate, I must inform them of the circumstances before you land.

You can do what you like, Captain, but I'm quite sure the French are far too polite to stop me taking my darling little pet with me.

SNAPSHOT II.

Hotel Angleterre,
Paris.
15.6. ?

My dear Nephew Charles,

My letter from Port Said will have explained to you why I am not home yet.

In spite of that awful Captain, I did manage to land at Marseilles with darling Fido. The Customs were very annoying though, all due to that Captain, I feel sure. I was made to get some sort of permit from them that only allows me to keep Fido in France for one month, and even then I've got to report where he is every week to the local gendarmerie. It is most annoying. I simply must get him into England before July 10th. The French, of course, think I'm waiting for an English permit, but I have no intention of getting one. It would mean my poor darling being shut away from me for six months, and you have no idea how thin the poor little thing got when he was shut up on board that awful ship. Now, Charlie, I want you to help me. I know you are fond of sailing and have a small sailing boat you go all over the place in. Could you sail over to France some nice calm day soon, and spend the night at Calais or Boulogne, or perhaps some other quieter French seaside place, and take Fido back with you without any fuss about permits. Do write and say you will, and when and how, and I will arrange to meet you. I can assure you, Charlie, if you help me you will never regret it. Give my love to your brother Harry and his wife when you see them, and particularly to my little niece.—Yours affectionately,

Aunt Julia.

SNAPSHOT III.

The Mains,
Lewis, N.B.
10.10. ?

Darling Mother,

Your sympathetic letter saved my reason I think. I do wish you were strong enough to come to me. Devon is so far away, but I simply can't tear myself away from my darling wee girlie's resting place. Harry wants me to, but I can't —not yet, anyhow. Every moment of the day, every hour of the night, I still see those awful convulsions, and hear her gasping and choking. She died on the night of her fifth birthday. It was heartrending. Mother mine, I shall never, never get that vision out of my brain. Oh, why did Charlie smuggle that peke of Aunt Julia's into the country ? Surely Aunt Julia could have found out where we were spending our holidays and let us know the dog had gone mad

sooner. The first we knew was through the police at Stornoway, and then our darling had been ill for a day. Dr. McAngus says she must have been nipped or licked when playing with the peke that day we spent with Aunt Julia in August. He says that a bad bite she would have talked about was not necessary. No one could have been kinder than he was, but, of course, not knowing anything about the dog, and never seeing rabies up here, he couldn't make out what was wrong until the message came from the police. It was then too late for any anti-rabies vaccine to be of use, as we couldn't get across to the mainland for three days because of the weather, and couldn't get the vaccine over either ; but the doctor said it wouldn't have been of much use if we had, as the treatment should be started before any symptoms show. Mother mine, the whole thing is too terrible, too terrible. Life is just a blank.—Your broken-hearted Daughter.

SNAPSHOT IV.

Extract from Official Report.

Whitehall, S.W.1.

Investigation into the origin of the outbreak of rabies in the southern counties in September, 190?, furnished clear evidence that the disease was introduced by an infected dog smuggled into the country in defiance of the regulations governing the admission of dogs. It is interesting to note the mentality of the two offenders in this act. Neither were of the law-breaking type. On the contrary, both were normally respectable members of the community.

One, the owner of the dog, was a lady of some position and considerable wealth, a liberal donor to charities, and a generous supporter of all societies connected with the welfare of children, poor persons and dumb animals, as well as an eloquent advocate of all " oppressed people," Disarmament, and Peace. In arranging to smuggle her pet into the country she simply let her desire to prevent the dog fretting in quarantine blind her to the possible awful consequences of her action. The severe punishment inflicted upon her by the law—the maximum penalty—can be nothing to the remorse she must feel at being the cause, not only of the suffering and death of a large number of animals, but, alas ! of her favourite young niece.

The second offender, the owner's nephew, is a well-known and popular sportsman. His evidence makes it clear that he never for a moment imagined a small pet dog could introduce rabies into the country, but thought it a good joke, as he put it, to " put one over " on the Customs.

The dog in question developed rabies seventy-three days after being smuggled into the country—and not less than 125 days after being infected in India. At the time the disease developed the dog was with the owner at her home near Bulford village on Salisbury Plain. The first onset of the disease was not recognised by the owner. Even when two days later the animal refused food altogether, and bit and tore at everything it could reach, she refused to recognise that it

might be suffering from rabies, and contented herself with shutting the little animal up in a disused coachhouse, where she fed and attended to him herself. It was not until the dog escaped two days later and was killed by the police at Netheravon, six odd miles from his home, after having bitten several dogs and two men, that investigation into the matter resulted in the diagnosis of the disease, that is to say, at least six days after the animal became infective.

This investigation showed that the owner was, almost certainly, infected, and that in all probability the whole household of two maids and a gardener, all of whom had handled the dog within a week, were also infected. Steps were at once taken to enable all known or possibly infected persons to undergo vaccination with antirabic vaccine. Unfortunately, the owner did not realise that any persons in contact with the dog immediately prior to the first symptoms of indisposition exhibiting themselves were also possibly infected, and neglected to inform the authorities that a niece and her young daughter had spent a day with her—the day prior to the dog showing any symptoms of indisposition. It was not until the eighth day after the disease was diagnosed, *i.e.*, at least the fourteenth after the animal had become infective, that this fact came to the knowledge of the authorities. They immediately tried to get in touch with the family, who were known to be touring in West Scotland, but only succeeded in doing so after a further delay of four days. By this time the little girl was in the early stages of the disease, although until the report from the authorities was received, its nature was not diagnosed. Treatment was, unfortunately, of no avail in this case, and the child died of rabies.

During the dog's flight from Bulford to Netheravon it was definitely ascertained that in addition to the two men and three dogs bitten in the vicinity of Netheravon, that had caused the police to destroy the infected animal, four more dogs had been bitten on the road. All these animals were destroyed. In addition, however, one or more dogs must have been bitten without their owners knowing it, for during the next eighteen months no less than thirty-six dogs, four horses, seven cattle, and one ferret (all excepting three dogs, one horse and the ferret, within the inner zone, and all within the proscribed area), developed the disease and were destroyed. An additional fifty-four dogs were destroyed as possibly infected, and four pedigree dogs, also possibly infected, were placed in close quarantine (later one of these developed the disease and was destroyed).

During this period seven men, four women, and five children bitten by dogs, and one man bitten by the ferret, were sent for antirabic treatment—all happily with excellent results.

The situation at last appears to be well in hand. No fresh cases have occurred during the last four months, and although the Board will not feel satisfied that all danger is over for at least a further two months they are becoming daily less anxious.

They acknowledge gratefully the prompt assistance given them by all local authorities, and desire to express much sympathy, not only with the owners of stock

and of pets that have had to be destroyed, but also with masters of hounds and owners of gun dogs in the proscribed area who for the past two years have had to keep their hounds and gun dogs in kennels and on leash.

The fact that foxes abound in the proscribed area, might easily become infected and carry the infection widespread, has been a nightmare to all responsible for the control and eradication of the outbreak. So far, however, no suspicious case of an infected fox has been reported, and that most dangerous possibility of the outbreak becoming indigenous in Great Britain is becoming remote.

SNAPSHOT V.

Extract from "The Journal," 192?

Be the cause what it may, inbreeding, breeding from poor stock, poor feeding in puppyhood, overmuch mental development in youth, or being allowed to "run riot" when at walk, post-war years have developed an enormous proportion of cranks of the anti-order in this country of ours. True, the aims they have in view are, generally speaking, splendid ones, but without exception they wilfully blind themselves to the terrible consequences of attaining their desire through other than reasoned logical channels. If the cost in human and animal suffering, not to speak of the financial cost, of the late destructive outbreak of rabies in the Southern Counties has the effect of making those dog lovers who consider any form of restriction on the canine race unwarrantable interference on the part of the powers that be alter their minds, then these victims of a misguided sentimentalist will not have died in vain.

Is it too much to hope that even our misguided friend, the anti-vivisectionist, will allow himself or herself to realise that without the deliberate inoculation of our humble dumb friend, the rabbit, the preparation of any anti-rabic vaccine would be impossible, and that, in consequence, in India alone literally thousands of human lives would be sacrificed annually.

This journal has always advocated the strictest control of so-called vivisection, but we have never lost sight of the fact that its abolition would result in such an appalling increase in the loss of human life that to suggest it even is criminal.

RUBBER FOREIGN BODIES IN DOGS.

By PROFESSOR G. H. WOOLDRIDGE, F.R.C.V.S., M.R.I.A., and J. W. H. HOLMES, M.R.C.V.S., D.V.S.M.

Royal Veterinary College, London.

THE difficulties associated with the diagnosis of various types of rubber foreign bodies in dogs by means of X-rays have already been recorded in an article by G. W. Clough, D.Sc., and H. J. Ede, M.S.R. (THE VETERINARY JOURNAL, Vol. 87, 1931, page 150), and a communication to the Central Division of the

N.V.M.A. by J. W. H. Holmes (*Veterinary Record*, Vol. 12, page 649, June, 1932). It is felt, however, that the following two cases may prove of interest :

(1) A male Scottie, aged three and a-half years, was sent up for examination by Mr. G. M. Vincent, M.R.C.V.S., Sutton, Surrey, accompanied by two X-ray photographs which had been taken the day previously. The radiographs revealed no abnormality, and the only history was that the patient had been in discomfort for several days and had shown persistent vomiting. Mr. Vincent also stated that he had that morning felt what he believed to be an intestinal obstruction.

The dog, on examination, appeared dull and walked with a peculiar stiff gait, the back being arched, and the hind legs tucked under the abdomen. The membranes were not markedly changed, while the temperature was only slightly raised. Abdominal palpation at first failed to give any positive result, but after a time a very definite circumscribed body, irregular in outline, about the size of a walnut, was felt in the posterior portion of the abdomen, low down on the left side. Rectal examination confirmed this finding. An exploratory laparotomy was at once performed (morph., gr. ½, and chloroform anæsthesia), and the body proved to be a portion of solid rubber ball in the small intestine. This was removed and the bowel was closed in the usual manner with Czerny-Lembert sutures (silk, No. 0). After making a search to ascertain whether or not further pieces were present and this proving negative, the operation was concluded by the suturing of the abdominal wall ; one row of interrupted suture in the peritoneum and muscles, and one row of skin sutures (silk, No. 3). Recovery was uneventful, and the patient was discharged ten days after admission.

(2) A male Scottie, aged two years, sent in for examination by Mr. J. Willett, M.R.C.V.S., Harley Street. The history was that of a week's vomiting, and also that a suspected intestinal obstruction had been felt a few hours previously by Mr. Willett. There was just a suspicion, volunteered by one of the household, that the dog might possibly have swallowed a toy rubber bone. The patient appeared very bright, and the membranes and temperature were normal. Abdominal palpation confirmed the findings of an intestinal obstruction. X-ray investigation was next carried out, two foreign bodies being revealed, one large one in the stomach, and a smaller one in the intestine. Further palpation through the abdominal wall failed to find the larger body. The patient was operated upon (morph., gr. ½, and chloroform anæsthesia), and two pieces of solid but rather soft rubber bone removed, one through the intestinal wall and one through the stomach wall. The dog made an excellent recovery, and was discharged thirteen days after operation.

Explanation of Radiographs and Photographs.

Figs. 1 and 2 are radiographs of the first patient, and do not reveal the presence of the foreign body.

Fig. 3 is a radiograph of the piece of rubber removed from the first patient, taken placed in direct contact with the X-ray film. Note the very faint

shadow—no more marked than that given by normal muscle, etc., and masked completely by the tissues in Figs. 1 and 2.

Fig. 4 is a photograph of the foreign body slightly reduced.

Fig. 5 is a photograph of the second patient, showing clearly two foreign bodies.

Fig. 6 is a photograph of the two pieces of rubber removed from the second case taken against a scale (reduced).

Chemical Analysis of the Foreign Bodies.

The pieces of rubber obtained from the two cases were submitted to Dr. Clough for chemical analysis, and he reported as follows :

" I have made an examination of (1) the portion of rubber ball, and (2) rubber bone, which you handed to me. (1) The rubber ball has a specific gravity of 0.99 and contains 2 per cent. zinc. oxide. (2) The rubber bone has a specific gravity of 0.99, and contains 8 per cent. zinc oxide. Sulphur was also present in each case. I am of opinion that the different behaviour to X-rays depends on the amount of mineral matter present in the specimens."

Observations and Conclusions.

Patient 1.—The first case is a further instance of a rubber foreign body not showing up on X-rays. It is, of course, realised that information of a positive nature might have been obtained by administering a barium meal, and then X-raying the patient. This would, however, have meant in this instance a delay of several hours for the radiographer to arrive, and it was felt that in view of the very definite findings on palpation, laparotomy was indicated, and that there was no good purpose to be served by further delay.

Patient 2.—The second case once more stressed the importance of examining for a further foreign body, after one has been removed. If it had not been that two pieces were revealed by X-rays, such neglect would have resulted in the second portion being left in the stomach to cause further trouble.

NEPHRITIS IN THE DOG.

By FRANK CHAMBERS, F.R.C.V.S.
Wolverhampton.

THE importance and prevalence of this complaint is becoming more obvious to practitioners every day. I think that I am correct when I say that until a few days ago this malady was seldom diagnosed as such. It was called gastritis, acute or chronic, Stuttgart disease, chronic poisoning (but by what element it was seldom stated). During my college career the existence of nephritis in the dog was never mentioned, but all the types of nephritis were described as occurring in the horse. These descriptions had obviously been more or less culled from text-books on human pathology. Strangely enough, even to-day cases of

nephritis are not diagnosed as such, except by those who are familiar with the symptoms of the disease or who have served under those who recognise the condition when they meet with it. I do not consider that nephritis is becoming more prevalent, in fact I see fewer cases of the acute parenchymatous type than I did some years ago. In 1926, acute parenchymatous nephritis was prevalent, and I considered it almost specific ; so much so that in a paper I read at the Central, which was published in *The Veterinary Record* on May 26th, 1928, I described a condition which I called " specific nephritis." To-day I am not prepared to be so dogmatic, and this may be because I do not see anything like the number of cases that I did some years ago. These cases of the acute type are rapidly fatal. If the subject can hold out long enough and repair occurs in the kidneys, necroses of the mucous membranes takes place, and one sees gangrene of the gums, and even the tip of the tongue. This condition is called Stuttgart disease ; but in my opinion it is merely the end-all symptom of acute parenchymatous nephritis. It has been suggested to me that the nephritis is the result of Stuttgart infection, but my reply to this is that the diagnosis of nephritis can be made with accuracy days before symptoms of Stuttgart disease appear (and that, I take it, are the uncontrollable vomiting, dirty teeth, ulceration of the buccal membranes, and, finally, necrosis of the tip of the tongue). An American observer states that he has produced " black tongue " by feeding diet deficient B, but this does not prove that he did not produce a nephritis first. It may be that dogs are fed more rationally now, and that owners no longer believe that " milk breeds worms," and " meat causes distemper." Personally, I do not consider that diet plays a great part in the causation of nephritis, for only last week I saw an eighteen months old White West Highland terrier in the last stages of acute parenchymatous nephritis, and this dog had been properly fed since weaning. By properly fed, I mean a mixed diet of milk, meat, and every thing that the owner consumed. This was a case where dog biscuits could not be blamed. We all will agree that " the dog fed by the cook is the healthiest dog" (if the cook does not overdo it), and the dog whose stable article of diet is dog biscuit is always in trouble. Dogs were never meant to eat biscuits. By their anatomy, design and digestive arrangements they were meant to catch, tear, masticate, digest, and eliminate meat and bones. Why is the gastric juice so rich in HCl, and why were anal glands provided ? Certainly not to consume and eliminate starchy foods. Of recent years it is obvious that the teachers in our veterinary schools are paying more and more attention to this question of nephritis, as evidenced by the appearance of an article in the *Veterinary Record* for December 3rd, 1932, by Professor Boddie, on " Urine Analysis as an Aid to Diagnosis." The symptoms of acute parenchymatous nephritis are so diagnostic as to be unmistakable when once recognised. The acute depression, persistent vomition, total loss of appetite, subnormal temperature, and, lastly, but the most important symptom, the smell of stale urine in the dog's mouth. This latter symptom is due to the excretion of urea in the saliva. When one considers that the normal urea content of the blood varies from 50 to 60 mg. per cent., and that in cases of

acute or chronic nephritis it reaches 400 mg. and higher, one can understand why it is secreted in juices other than the urine. It has been shown in cases of uræmia that urea is secreted in the saliva and gastric juice, and it is possible that the presence of the urea in these juices causes gastro-enteritis and the mouth lesions seen in acute cases of nephritis. According to Schramek (Nieberle and Cohrs, " Pathology," p. 199) there is sometimes found in cases of the so-called Stuttgart disease a necrosis of the pleura. This necrosis takes the form of yellowish streaks which start at the hinder edge of the ribs, and have a direction at right angle to the ribs, and gradually fade out. The authors show a coloured illustration of this condition, and say, whilst it may be true that the condition occurs in some cases of Stuttgart disease, the case from which their illustration was taken *was actually one of uræmic poisoning.*

In cases of nephritis one always finds albumen present in the urine in very large quantities, but I agree with Boddie, when he says that the amount of albumen present is no criterion of the severity of the kidney lesions. This severity can only be estimated by the urea concentration test. Unfortunately this latter test is rather complicated, and can only be done in the laboratory. Conditions such as great pain occasioned by a fracture will cause the presence of enormous amounts of albumen in the urine, but as the fracture mends and the pain becomes less, the amount of albumen will decrease, and the urine will eventually become normal. Innes published a very valuable contribution to the study of nephritis in an article " Arterio-sclerotic Kidney (Primary Contracted Type), and Secondary Contracted Kidney in the Dog " (*Veterinary Record*, Aug. 2nd, 1930), and in it he dealt with the arterial changes in the kidneys of a dog which no doubt died from interstitial nephritis, although he states that " *the dog was destroyed on account of ill-health without any clinical diagnosis.*"

As Innes states, it has to be remembered that the different elements of the kidney (glomeruli, tubules, interstitial tissue and vessels) are so intimately connected and dependent upon each other that injury to one is certain to have some effect on the others, and that in certain cases of nephritis post-mortem appearance of the kidney represents but one stage in the anatomical development of a complicated lesion. It is now generally supposed that these arterio-sclerotic changes are the cause, and not the result, of the sclerotic changes in the kidney. One can liken the kidney to a modern water-tube boiler. In the case of chronic interstitial nephritis the constant inflammation of the tissues, especially the interstitial portion, leads to the production of scar tissue. This in time contracts and causes distortion of the tubules. The tubes of the " boiler " are buckled, and so put out of order, and the whole organism ceases to function in a normal manner. In chronic interstitial nephritis the tubules are distorted and put out of action to such an extent that the urea cannot be successfully excreted, with the result that it collects in the blood stream and uræmia results. As far as acute parenchymatous nephritis is concerned, a different mechanism must operate. The acute inflammation of the kidney substance may cause pressure on the tubules and glomeruli,

FIG. 1.—Dorso-abdominal view.

FIG. 3.—Showing only a faint shadow of piece of rubber.

FIG. 4.—Photographic view of piece of rubber X-rayed in Figure 3 (slightly reduced).

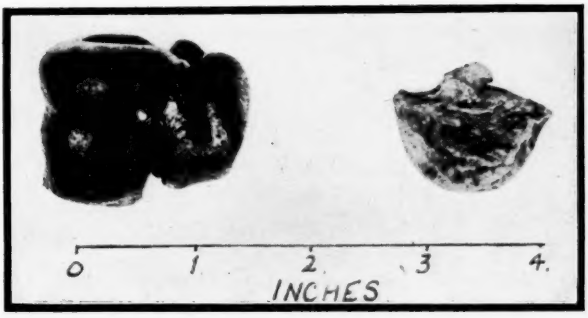


FIG. 6.—Fragments of rubber bone removed from stomach and intestine of Scotch terrier, 17/11/33.

(*Article by* Professor G. H. Wooldridge, F.R.C.V.S., M.R.I.A., and J. W. H. Holmes, M.R.C.V.S., D.V.S.M., *page* 28).

326

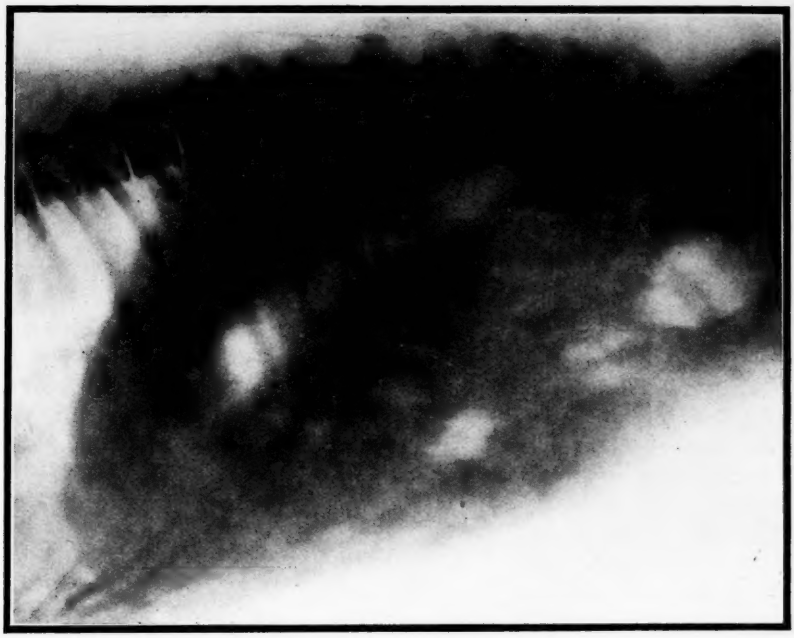


FIG. 2.—Lateral view.

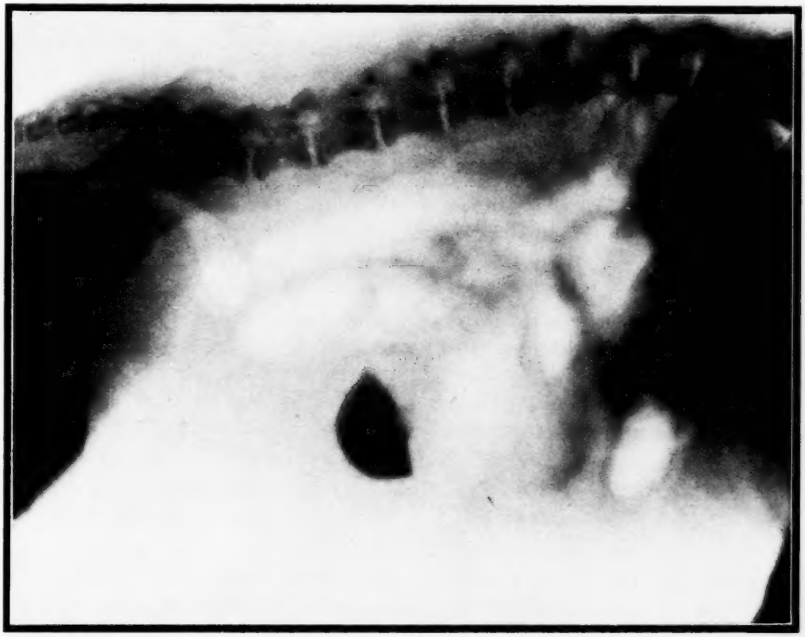


FIG. 5.—Showing one foreign body in intestine and another in the stomach.

(*Article by* Professor G. H. Wooldridge, F.R.C.V.S., M.R.I.A., and J. W. H. Holmes, M.R.C.V.S., D.V.S.M., *page* 28).

causing their inability to operate in the normal manner. As to treatment, I know none of any value. The damage to the kidney is so great that repair cannot take place. The kidney is small, contracted and distorted. In cases of acute nephritis the only hope is that the period of uræmia can be successfully tided over until repair of the injured kidney takes place. Until the cause of this trouble has been successfully established one cannot hope for a cure. One seldom ever sees a case of interstitial nephritis in a bitch. I only remember seeing but one case of this disease in a bitch, and this was a subacute type. All the other cases have been in the male. The only explanation that I can offer for this phenomenon is that most dogs suffer from a purulent condition of the prepuce, with a constant discharge of pus, which is invariably licked off by the dog himself. The constant ingestion of this virulent material must result in a large amount of the organisms or their toxins being absorbed into the blood stream, and in turn must get into the kidneys. The quiet inflammatory action of these organisms in the kidney would in time produce scar tissue, and eventually the scar tissue contracts, with the results described before. It is only supposition on my part, but it is the only explanation that might possibly fit the case.

EXPLORATION OF THE MOUTH IN ANIMALS.

By C. W. ELAM, M.R.C.V.S., D.V.H.

Department of Clinical Medicine and Surgery, University of Liverpool Veterinary School.

At the present time it is possible for members of the profession to purchase from surgical instrument makers, mouth gags or oral speculæ of various types. Many of these gags are ingeniously constructed, and serve their purpose admirably, yet in some cases they either give a feeling of insecurity, or fail to offer to the operator that clear field of vision and action which is so essential when carrying out surgical operations in the region of the buccal cavity. One common type of equine mouth gag is so constructed as to hold the jaws apart by means of metal plates into which the incisor teeth of both jaws fit. This type of gag in one particular case offers an excellent field of vision, but to the operator it gives at times a feeling of insecurity, while it needs a little patience in adjusting. The other type of mouth gag holds the jaws apart by resting on the bars of the mouth just anterior to the molar teeth. In this case the gag gives a feeling of security, but it does not offer the required field of unrestricted action, while it has to be reversed if both sides of the buccal cavity or teeth need attention. An attempt has been made, as will be seen from the illustrations, to overcome the deficiencies of our present-day mouth gag.

The gag in question is simple in construction, durable, easily placed in position, and its width is regulated by a single screw. It gives a feeling of security since it rests on the bars of the mouth just anterior to the molar teeth, while its anterior staple-like projections from the upper and lower bars (the latter projection

encircles the canine teeth) prevent tilting. Once the gag is placed in position the operator is afforded an extensive and unrestricted field of vision and action, while the presence of the gag in the mouth does not interfere with the lateral movements of large molar forceps, which are used to loosen molar teeth prior to extraction. The gag can be used for cattle as well as horses, provided sufficient space is allowed to accommodate the broader muzzle and lower jaw of the animal. For canine work a gag of somewhat similar construction will be found most useful, but in order to prevent movement of the jaws a strap is adjusted over the nose and under the lower jaw. The gag is so constructed that it will serve its purpose equally well for large or small dogs, since the straps are attached to metal runners on the bars, and the runners can be brought closer together when the gag is used for a smaller animal.

The gags have been made by the Holborn Surgical Instrument Co., Ltd., and are covered with leather in parts so as to prevent injury to the horse's mouth. For the illustrations I am indebted to Mr. A. V. Shuttleworth, B.V.Sc., M.R.C.V.S., Lecturer and Demonstrator in Veterinary Surgical Anatomy and Operative Surgery at the Liverpool University Veterinary Hospital.

LYMPHOSARCOMA OF THE RECTUM AND ITS SEQUELÆ.

By J. McCUNN, A. B. ORR, and L. LESTER
Royal Veterinary College, London.

THE subject of this note was a male fox-terrier dog. He was a champion, and considered by many to be the greatest dog of his generation. Late in February, 1933, it was noticed that the act of defæcation was not normal. There were many calls; the passage of fæces was a protracted business. The stools were of a ribbon-like shape, and a period of straining always succeeded their successful delivery. In other respects the dog was apparently normal, and he served his full quota of bitches.

Early in March it was noticed that a reddish-coloured lump protruded from the anus after defæcation. This lump rapidly became larger and more prominent, and caused considerable discomfort. He was brought to hospital about the middle of March, and the above train of symptoms were duly noted. The lump was ½ in. wide, and about 2 in. long. It was situated on the floor of the rectum, and it partly invaded the lateral wall. It appeared to be growing in the submucosa, and the mucous membrane was firmly adherent to it. Its most distal point was eroded and ulcerating. The animal was never comfortable, straining being continuous. A tentative diagnosis of a malignant growth was given. A search of the abdominal and pelvic glands did not show evidence of metastases. It was decided to operate, for the dog was of great value, and, as previously noted, otherwise in good health. A general anæsthetic was used. The growth was

seized in vulcellum forceps, elevated from the floor of the rectum, and withdrawn as much as possible. A strong clamp was placed beneath the growth, and it was excised. The mucous membrane and submucosa were drawn together by a continuous catgut suture over this clamp. The clamp were gently released and withdrawn, at the same time the suture was pulled tight. There was a minimum of hæmorrhage. After-treatment consisted of rectal lubrication by means of glycerine and a liquid diet. The site healed without trouble, and an apparent cure resulted. Periodical examinations were made. No recurrence could be ascertained, and the dog resumed his stud work at the end of April.

In June the dog was again admitted to hospital suffering from hemiplegia, the right side of the head and the left side of the body being involved. There was no evidence of metastasis, and the hemiplegia was attributed to a thrombus. The condition rapidly cleared up under iodide treatment and rest. Stud work was resumed. In August a similar attack occurred, with likewise good results. In November a slight attack occurred which rapidly resolved.

There was again no evidence of metastasis.

About Christmas time it was noticed that the dog was wasting in spite of good feeding. At this time the animal was quite lively, but after Christmas there was a rapid change for the worse. The back fell away, a pot belly developed, and there was a considerable bulging of the thorax, especially on the right side. The breathing was not unduly impaired, but wasting was so rapid that the dog became literally a bag of bones. He was admitted to hospital on January 1st, 1934, and the above observations were confirmed. The abdomen appeared to be full of growth, and there was an excessive area of dullness over the cardiac area of the thorax. Hemiplegia was present in a slight degree. It was resolved to destroy the animal, and the post-mortem report was as follows :

The parietal peritoneum was covered with white tumour-like nodules of all sizes. Smaller growths were present in the omentum and mesentery, particularly along the mesenteric attachment of the bowel. The mesenteric lymphatic glands were not involved. The tumours extended into the pelvic cavity and surrounded but did not invade the rectum, prostate and urethra. There had been very little invasion of the stomach and intestine ; the latter showed an occasional early ulcer where a nodule had invaded the muscular coats, and penetrated as far as the luminal surface. The largest growth was present in the liver, which was considerably enlarged and deformed. Practically the whole of the left lobe was a mass of tumour tissue, smaller nodules being scattered throughout the remaining lobes of the organ. Each kidney contained one pea-sized focus, but there was no lesion in the spleen.

In the thorax, the most prominent site of the growth was the myocardium, which was extensively invaded. It contained a considerable number of well-defined, white, opaque areas up to the size of a hazel nut. At one point in the right ventricle a tumour had extended to the endocardium, producing a local

patch of secondary endocarditis about 1 cm. in diameter. With the exception of a few small lesions in the posterior lobes of the lungs, the latter organ showed no abnormality. In addition to the neoplasm, there was an advanced chronic passive congestion of the abdominal organs due to the presence of the tumours.

Histological examination of the primary tumour and of the subsequent metastases revealed the condition to be one of lymphosarcoma.

GASTRO-INTESTINAL DISORDERS—THE IMPORTANCE OF DIET IN TREATMENT.

By W. R. McKINNA, M.R.C.V.S., D.V.S.M.
Huddersfield.

THE frequency of such disorders in canine practice makes one hesitate in introducing such a hackneyed subject, yet the successful treatment of such cases is of considerable importance in gaining and holding the confidence of one's client, in addition to the restoring of the patient to a condition of well-being. It is not intended to discuss the causation of these illnesses, a correct diagnosis and removal of the cause, if possible, being accepted. The medicinal treatment has been debated many times, and we all have our favourite remedies. One feels, however, that too much stress cannot be laid upon the subject of a suitable dietary to aid the animal's recovery, and it has been found that this factor needs to be impressed upon the owner very emphatically. They are frequently ignorant of the proper foods that should be prepared for canine invalids; and to ensure results one must detail the exact dietary for each twenty-four or forty-eight hours, and, having done so, warn them that it must not be deviated from in any way. It can be disappointing and annoying to find that progress in treatment of an acute digestive disorder is set back by the owner succumbing to the pleading eyes of the patient, and giving it some solid food "to appease its hunger." The ideal diet for these cases is milk and foods prepared with milk.

Acute Gastric Disorders.

Milk alone; milk diluted with barley water or lime water, given cold, will usually serve one's purpose for the first forty-eight or seventy-two hours. If vomiting still persists, milk and sodawater in equal quantities may be more suitable, while in other cases one must resort to peptonised milk. We have found that milk treated by Fairchild's peptonising powder ("Zymine") is very suitable, and one feels that peptonised milk is not used as often as it might be in acute gastro-enteric conditions. It is frequently effective when other foods fail, and when other medicinal agents are not tolerated. Water is better withheld, and ice substituted to alleviate the intense thirst.

Mention must be made of the line of treatment suggested by Blount (THE VETERINARY JOURNAL, March, 1931, p. 141) in the giving of an isotonic saline solution in the place of milk foods when these are not retained. Small quantities of this solution, prepared according to the formula he suggested, given at frequent intervals along with normal saline injections, gives good results in some cases.

Acute Enteritis.

This is usually associated with acute inflammatory conditions of the stomach, and the food given is at first similar until vomiting has subsided for at least forty-eight hours. Then a more astringent dietary may be commenced, arrowroot or cornflour made with water or milk giving the best results. They comprise very easily assimilable forms of starch, and with the milk form a sufficiently balanced diet which may be persisted with for many days, or even weeks. The foods must be prepared carefully and gently simmered for at least fifteen minutes. They are better fed cold, or nearly so, and made to a thick, creamy consistence.

Milder Bowel Disorders.

Milder bowel disorders usually show a diarrhœa more or less acute. This can be very troublesome and tedious to treat, and here more than ever is a strict adherence to a suitable diet essential. Arrowroot or cornflour are the sheet-anchors, and combined with suitable medicinal agents will produce the desired results in all but the most exceptional cases. However, they must be persevered with in proper quantities and over a sufficient period of time, and it may be necessary to do so for two or three weeks or even longer. There is no danger to the animal's health in persisting thus long, though in puppies it may be necessary to supply the necessary vitamins after a period of ten days or more of a cooked diet. It is our experience that until the dog is able to digest and assimilate such simple foodstuffs, it is folly to feed more solid material.

The passing on to other foods should be gradual, the condition of the fæces being the best indicator as to how quickly one should proceed to a normal regime. The question of the quantities of milk foods that should be given is a matter of importance. For a terrier, half to three-quarters of a pint for each day should be sufficient for maintenance. We usually insist on making half a pint the minimum quantity to be given. If the dog will not take it voluntarily, then forcible feeding must be persisted with as long as necessary, and one finds that the suggested quantity is about all one can force down without inducing vomition in cases of gastritis. Larger quantities are usually taken fairly well, and are necessary when prolonged treatment is required, as in some cases of diarrhœa.

Abstracts of Current Literature

Alopecia of the Dog, and Splenic Extracts. By Monsieur ROGER, D.V.M., Veterinary Surgeon at Tournan. *Rec. de Méd. Vét.*, August, 1933.

ALOPECIA consists of partial or generalised loss of hair, feathers or wool. It is rare in veterinary dermatology to meet with total alopecia. One finds large spaces where the hair persists normally, or, on the other hand, is sparse and dull. Alopecias are congenital or acquired. Diffuse alopecias are of various origin. A number of cases are preceded by *acute infectious illnesses*. These cases are due to a rise of temperature above a certain point, and they are apt to recur. Alopecia of fatigue follows gestation or abundant lactation. Toxic alopecia is one of the symptoms of certain chronic intoxications (hydrargyrism). Alopecia from shock sometimes occurs. Alopecia due to glandular disturbance has often been noted, especially in castration of the bitch, and sometimes decoloration persists.

Area alopecias may be due to fevers and suppurative dermatitis, staphylococcic folliculitis, sclerodermy, or the action of physical or chemical agents and traumatisms. Area alopecias may be non-cicatricial, and may appear in a region far from a wound; probably these are due to glandular disturbances.

Treatment by splenic opotherapy is not new, and is often used against eczema of the dog. We have, however, recently used it with success in three cases typical of special alopecia, non-eczematous, with disappearance of the hairy system for several months.

Case 1.—A pet dog belonging to a lady had total loss of hair from the root of the tail to the chest. It had been treated by liniments and lotions for eight months with no result. It was then brought to me, and I advised thyroid extracts. Result was negative. We ordered daily injections of splenin, and lotions of camphorated brandy. In fifteen days there was a slight downy growth, and the dog in time made a good recovery with no relapses.

Case 2.—This dog suffered from alopecia following eczema, and there was intense itching at the bare places. We gave him a daily dose of 75 grammes of the fresh organ. After the fourth injection the itching disappeared, and the hair began to grow, and in a month he was cured.

Case 3.—A two-year-old dog, when one year old, had a staphylococcal folliculitis, and was cured, but the skin was left quite glabrous, and no outward applications did good. One hundred grammes of raw spleen were given daily, and at the end of a month there was a nice growth of hair.

These three dogs were all house dogs, going out about an hour a day. Under the effect of splenic extract there was hematopoiesis. The number of red corpuscles increasing, oxygenation became more intense, and the hairy system underwent

a favourable excitation for its development. This " hematopoietic " explanation probably does not suffice to explain the value of the treatment of eczema and alopecias by splenic extracts. The physiological relations which exist between the spleen and the liver allow of supposing that a splenic excitation favours indirectly the function of the liver, the organ of disintoxication *par excellence.*

[We have used hog-spleen solution hypodermically in several cases of eczema and alopecia in the dog, and with very good results.—G.M.]

Spirochætosis melacuogenes of the Dog (Stuttgart Disease). By J. LUKES. *Prag. Arch. f. Tiermed.* Vol. 6, pp. 233–250.

THE regular finding of spirochætes in the kidneys of dogs affected wth this disease forms an important ground for believing that this disease is a spirochætosis. The proof of spirochætes is not easy, but is best obtained in sections made by the impregnating silver procedure of Levaditi after the pieces of kidney to be examined have lain for a few weeks in formol. The kidney affection in the majority of cases is a mass nephritis. Out of 105 cases examined the author found spirochætes in 97, which were either single or in groups and clumps in the little canals in the neighbourhood of the glomeruli. In order to prove that spirochætes do not occur in the kidneys of healthy dogs, the author examined the kidneys of thirty healthy dogs according to Levaditi, but in no case found spirochætes. Cultivation is difficult, and only in a few cases was it successful when brain broth was used as the culture media. Therapeutically, the author has had noteworthy success by the use of salvarsan. This result leads to the conclusion that there is a great comparison between Stuttgart disease and Weil's disease in the dog.

Endocrinology and Rejuvenation: Monkey Glands Grafted on Human Body. By H. C. GANGULEE, G.B.V.C., B.V.S., Professor, Bengal Veterinary College, Calcutta. *The United Provinces Veterinary Magazine*, July, 1933.

A HINDU girl, seventeen years of age, came to the attending surgeon for treatment for the following complaints: (i) She never had menstruation though she was seventeen years old. (ii) No development of the mammary glands. Previous treatment already adopted: She was given for one year extract of thyroid, parathyroid, and ovarian glands, pituitrin tablets, etc., but without any benefit. Physical examination: Stout, strong, dwarfish, eyebrows prominent with thick hair. Very little hair over the whole body was a notable feature. Hereditary history revealed nothing. Heart, lungs, kidneys normal. Examination of external genitalia revealed nothing abnormal or pathological. Treatment subsequently deliberated on was an ingrafting operation, in which the ovaries of a healthy monkey were to be ingrafted. Accordingly a young and healthy virgin monkey was purchased.

Modus Operandi.—The monkey was anæsthetised, and öophorectomy was performed. The ovaries were then placed between two wads of cotton in sterilised normal saline solution, and immediately transferred over to the surgeon. While this öophorectomy in the monkey was going on, in the midst of an anxious crowd of medical men at the girl's residence, where surgical arrangements were made, the human patient on another table almost simultaneously was prepared for her turn. The ovaries were ingrafted deep into the muscles of the buttocks of the girl.

This is one of the many instances where a veterinarian can be of service to a member of the medical profession.

A Strain of Clostridium welchii producing Fatal Dysentery in Lambs. By E. A. TUNNICLIFF: *Journ. Infect. Dis.*, 1933, Vol. 52, No. 3, pp. 407–412.

THE author discusses an unusual loss among young lambs from dysentery caused by a highly toxic strain of *C. welchii*. The disease appears to attack very young lambs, for they "developed a greyish, putty-coloured, gaseous, fetid diarrhœa within the first few hours after birth," and became rapidly prostrated. The peracuteness of the disease differentiates it from the ordinary dysentery found in other flocks in the same districts. Tunnicliff obtained cultures from two affected lambs. The strain of *C. welchii* isolated was highly toxic, and differed somewhat from the type of organism isolated from lamb-dysentery cases in England. Lamb-feeding experiments were carried out. The intestinal contents from five lambs dead of dysentery were mixed and fed to three lambs. All three developed typical symptoms; and on further experiment it was shown that the intestinal contents of artificially-infected lambs were also capable of infecting normal lambs. Cultures of the isolated *C. welchii* were used on newly-born lambs in feeding tests, and the disease was reproduced typically. Feeding with mixed cultures of various organisms isolated from the intestine of diseased lambs was carried out, but it was found that only when the mixture contained *C. welchii* type, isolated from the affected cases, was the typical disease reproduced. When the *C. welchii* strain was omitted, only "a normal diarrhœa or depression, similar to that seen from the feeding of the intestinal contents of normal lambs, resulted."

Publishers' Notices

All communications should be addressed to 7 & 8, Henrietta Street, Covent Garden, London, W.C. 2. Telephone: Temple Bar 8568. Telegrams: "Baillière Phone, London."

Letters for the JOURNAL, literary contributions, reports, notices, books for review, exchanges, new instruments or materials, and all matter for publication (except advertisements) should be addressed to the Editor.

Copy of advertisements should be in the hands of the publishers—Baillière, Tindall and Cox—not later than the 25th of the month, or if proof is required, not later than the 23rd.

Binding Cases for Volume 89 and any other previous volumes can be obtained from the publishers. Price 2*s.* 9*d.* post free.

Annual Subscription, 21*s.* ($5.00 U.S.A. currency) post free.